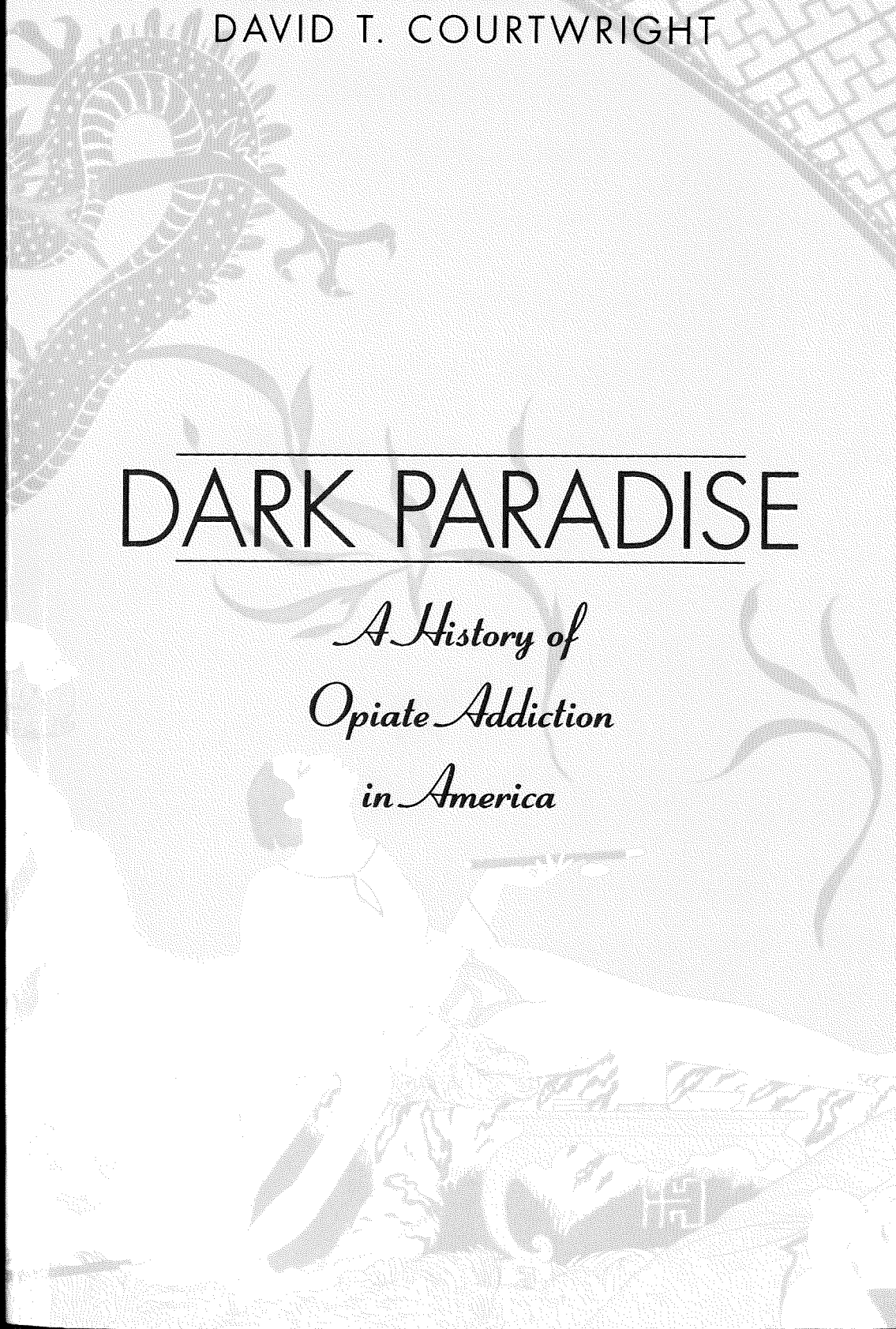


EXHIBIT X

DAVID T. COURTWRIGHT

DARK PARADISE

*A History of
Opiate Addiction
in America*



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Addiction to Opium and Morphine

The term *opiate addiction*, as it has been used thus far, serves as a unifying concept. Like the word *alcoholism*, it is a way of speaking about diverse people who have in common their dependence on a certain drug. The aim of this and subsequent chapters, however, is to divide opiate addicts into smaller, more homogeneous classifications. The histories of these separate groups provide a basis for understanding the overall decline in addiction, as well as for explaining the transformation of the addict population.

Nineteenth-century and early-twentieth-century opiate addicts were distinguished by the form of opium they used. The background of a morphine addict, for example, was different from that of an opium smoker. Not only was the morphine addict a "better" person in the conventional social sense, but he (or more likely, she) typically began using the drug for medical, rather than euphoric or experimental, purposes. Recognizing the presence of such distinct patterns of addiction, each centering on the use of a particular drug or drugs, is the key to organizing opiate addicts into more meaningful categories.

The first pattern is addiction to opium and morphine. By opium and morphine I have something quite exact in mind. *Opium* means the dried milky juice of white poppy capsules, except when it has been prepared for smoking. (For clarity I always refer to opium in the latter form as *smoking opium*.) *Morphine* means the principal active alkaloid of opium, or any of its salts, such as morphine acetate, morphine hydrochloride, or morphine sulfate. It does not include diacetylmorphine or heroin, a semisynthetic derivative which, like smoking opium, is discussed in a separate chapter. When referring to opium and morphine addiction, I mean addiction to these substances either alone or as part of a medicinal preparation. Opium and morphine were commonly included in official preparations, such as Dover's powder or laudanum, as well as unofficial preparations, particu-

larly patent medicines.¹ While some opium and morphine addicts took their drug as a pure powder or salt, others ingested it as a part of a polypharmaceutical concoction. Both are considered here.

While there were many sources of opium and morphine addiction, four were especially significant: administration by physicians, the Civil War, self-dosage, and nontherapeutic usage. Prior to an examination of each of these factors, it will be useful to consider the background and characteristics of the addicts themselves. Fortunately, there is sufficient information on their sex, age, race, national origin, geographic distribution, class, and occupation to fashion a detailed composite portrait.

Characteristics of Opium and Morphine Addicts

The outstanding feature of nineteenth-century opium and morphine addiction is that the majority of addicts were women. Orville Marshall's 1878 Michigan survey, Charles Earle's 1880 Chicago survey, and Justin Hull's 1885 Iowa survey indicated that 61.2, 71.9, and 63.4 percent of their respective samples were female.² Marshall further differentiated between opium addicts, of whom 56.3 percent were female, and morphine addicts, of whom 65.6 percent were female.³ The location with the highest percentage of female addicts allegedly was Albany, where it was reported that "fully four-fifths of the opium-eaters are women."⁴

The disproportionate number of female opium and morphine addicts persisted in some places well into the twentieth century. In 1912 Charles Terry reported that 68.2 percent of Jacksonville's opium and morphine addicts were female; in spite of an influx of male transients, the figure at the end of 1913 was still 61.0 percent female.⁵ Tennessee's 1913 registration and maintenance program revealed that 66.9 percent of morphine users, 75.0 percent of laudanum users, and 66.7 percent of gum opium users were female; in contrast, women comprised only 22.6 percent of the registered heroin users.⁶ As late as 1919 a report from Memphis indicated that 57.0 percent of the morphine addicts in that city were female.⁷

Not every early-twentieth-century study disclosed a majority of female addicts, however. Of 34 morphine addicts studied by Dr. Harry H. Drysdale in Cleveland City Hospital in 1915, 23—or 67.6 percent—were male.⁸ Unpublished case summaries compiled by Lawrence Kolb in 1923 showed that 120 of 174 opium and morphine addicts were male, or 68.9 percent.⁹ An even higher percentage was obtained from the records of the Shreveport clinic, which indicated that 76.4 percent of the patients were

male.¹⁰ Some of this disproportion may have resulted from the itinerant character of many of Willis Butler's patients;¹¹ nevertheless it appears that, at least in some places, by 1915 to 1923 men comprised the majority of morphine addicts.¹²

Most individuals who became addicted to opium and morphine did so between the ages of 25 and 45. "To no age is accorded an absolute exemption," wrote Alonzo Calkins in 1871, "but the medium period lies between the 30th and the 35th year." His view was shared by Charles Earle, who described it as "a vice of middle life."¹³ Statistics from the Tennessee program confirm Earle's dating of addiction, if not his assessment of it as a vice. The average age at which addiction began was for males 37 years, 10 months; for females, 37 years, 6 months. For both sexes the average age at time of registration was 49 years.¹⁴ Other studies published between 1871 and 1922 yield somewhat lower average ages, but generally support the characterization of opium and morphine addiction as a condition of middle life.¹⁵

With respect to race, whites were overrepresented among opium and morphine addicts, blacks underrepresented. In 1885 Dr. James D. Roberts of the Eastern North Carolina Insane Asylum, after making a number of inquiries, reported that he knew of "but three well authenticated cases of opium-eating in the negro."¹⁶ In Jacksonville in 1912 and 1913 nearly three-quarters of the opium and morphine addicts were white, even though whites made up slightly less than half of that city's population.¹⁷ Lucius Brown noted that only 10 percent of Tennessee's registered addicts were black, even though roughly a quarter of that state's population was black.¹⁸ In Shreveport 91.5 and in Houston 95.5 of the clinic patients were white, remarkable statistics in view of the substantial black populations in these areas.¹⁹ As late as 1923 only 7 of the 174 morphine addicts studied by Kolb were designated "colored."²⁰ The single exception to the pattern was Chicago, where Earle's 1880 study showed blacks to be overrepresented among opium and morphine users.²¹

Most opium and morphine addicts were also native-born. In Chicago 73.2 percent of the addicts were listed as Americans, even though the native-born comprised only 59.3 percent of that city's population in 1880. Germans, Irish, English, and Scandinavians were all underrepresented among Chicago addicts; only the Scots were overrepresented.²² An 1887 study of 12 morphine addicts in the Pennsylvania Hospital for the Insane showed all to be of American birth.²³ Finally, case summaries published in Drysdale's 1915 Cleveland study also indicated that the foreign-born were

underrepresented among morphine addicts.²⁴ With the exception of Chinese opium smokers (to be discussed later), immigrants contributed relatively little to the incidence of opiate addiction in America.

In geographic terms, opium and morphine addicts were concentrated in the South. Table 2 shows the number of addicts attending narcotic clinics in 34 cities between 1919 and 1924. Most, though not all, of these addicts used opium or morphine. The 23 northern and western cities averaged 0.93 addict per thousand, while the 11 southern cities²⁵ averaged 1.53 addicts per thousand persons—a rate 64.5 percent higher. Maintenance programs in Jacksonville and Tennessee also produced addiction rates in excess of the northern and western average.

Further evidence for higher southern use is found in pharmacy records. A survey of the records of 34 Boston drug stores published in 1888 revealed that of 10,200 prescriptions sampled, 1,481 (14.5 percent) contained some type of opiate.²⁶ Unfortunately, there was no comparable study of prescriptions for a major southern city. I have, however, located and sampled the contents of two surviving New Orleans pharmacists' record books, dating from the late 1870s and 1880s. Fully 24.5 percent of these prescriptions contained opium or morphine, 10 percentage points more than the Boston average.²⁷ While a limited, two-city comparison does not prove that an entire region had a higher rate of addiction, it at least corroborates the differences indicated by clinic registration.

One important implication of the higher southern clinic and pharmacy figures is that southern whites ran the greatest risk of opium and morphine addiction of any regional racial group. Since southern blacks had a very low rate of addiction, and since blacks made up roughly a third of the postbellum southern population,²⁸ it follows that, to account for the low black rate, southern whites must have had a rate even higher than their regional average.

A second question bearing on the geographic distribution of opium and morphine addicts is whether they were situated in urban or rural areas. Contemporaries offered two competing theories. The first, advanced as early as 1869, held that addiction was concentrated in larger cities, where the demand for "stimulants" was proportionately greater.²⁹ This view, endorsed by several prominent specialists, was opposed by Thomas S. Blair, a physician and drug control officer who made a careful study of addiction in Pennsylvania. In 1919 he observed that although there was little addiction among active farmers, there was a good deal of addiction among

retired farmers, invalids on the farms, tenants, domestic farm help, and the much-harassed farmers' wives . . . Our reports . . . , while showing less free use of narcotics in rural communities than formerly, do very positively show a *per capita* consumption of opiates in the small towns and villages adjacent to the farms where the drugs are secured from physicians or on prescription, very far in excess of the *per capita* consumption in the large cities.³⁰

Morphine use in Pennsylvania, Blair later reported, was concentrated as follows: towns with populations ranging from 1,000 to 30,000 had the highest per capita consumption, followed by cities of 30,000 to 100,000, and finally by Philadelphia and Pittsburgh, which had the lowest per capita consumption of all.³¹

Unfortunately, data drawn from surveys and maintenance programs outside Pennsylvania provide no clear-cut resolution of the controversy. In his Michigan survey, Marshall tabulated the number of opium and morphine addicts per town, together with the town's population.³² Although the survey canvassed no large cities, it did include 96 locations ranging in population from 315 to 10,235. The statistical relation between rate of addiction and town size is exceedingly weak, however, with virtually zero correlation between the two variables. An analysis of the clinic data in Table 2 yields somewhat similar results; adjusting for regional differences, there is a negative relation between the rate of addiction and city size, but it is not pronounced (see Appendix). Opium and morphine addicts, in short, seem to have been well distributed with respect to urban and rural areas.

"While all classes of people are to be found in the ranks of morphine addiction," wrote addiction specialist Charles B. Pearson in 1918, "the better class of the native American stock seem to be the most susceptible."³³ Pearson's remark summarizes a half-century of medical testimony; there was a consensus that opium and morphine addicts were concentrated in the upper and middle classes.³⁴ Evidence of a statistical nature is scant, but what there is generally supports Pearson's view. In 1889 Dr. Benjamin H. Hartwell asked Massachusetts pharmacists and physicians which classes of people in their communities used opium or its preparations. The 446 pharmacists answered as follows: 22 percent, all classes; 22 percent, middle classes; 7 percent, upper classes; 7 percent, lower classes; 11 percent, "do not know of any who use opium"; and 31 percent, "do

not know” or some other answer. The answers of the 166 physicians were 30 percent, all classes; 22 percent, upper; 12 percent, upper and middle; 8 percent, middle; 6 percent, lower; 14 percent, “nervous women”; and 8 percent, “do not know.”³⁵ While Hartwell was counting questionnaires, Virgil G. Eaton was thumbing through the prescription records of 34 Boston drug stores. He observed that a drug store with a distinctly upper-class clientele had more prescriptions containing opium or morphine (16.3 percent) than stores patronized by “poorer people” or “poor Italian laborers” (12.0 and 10.7 percent, respectively).³⁶ Evidently American laborers and factory operatives did not take to opium and morphine with the enthusiasm of their English counterparts.³⁷

In addition to strictly statistical evidence, contemporary accounts abound with allusions to addicts of refinement and position; their plight served to drive home the point that addiction was, as Charles B. Towns put it, “no respecter of persons.”³⁸ Discreet references tantalize: Who were the several congressmen and senators whom Washington physician D. Percy Hickling supplied with opium, or the congressman-addict who resorted to opium to bolster his oratorical efforts? Who was Mrs. E. D. P., sister of a governor and U.S. senator, mentioned by pamphleteer Edward Sell as a former addict, or the brilliant and famous inventor cited by Clyde Langston Eddy?³⁹ In some cases we know the identities of famous addicts, principally because their medical histories (or those of their families) have been closely studied. Benjamin Franklin and John Randolph, for example, almost certainly became dependent upon opium in their declining days, while Harriet Beecher Stowe’s daughter, Georgiana, became addicted to morphine following a sudden nervous prostration.⁴⁰ Letters and diaries occasionally provide clues about the use of these drugs in prominent families. Correspondence by Jefferson Davis’ female relatives reveals how commonly opium preparations were resorted to for illness, as do the diaries of Confederate aristocrats Mary Boykin Chesnut and William Pitt Ballinger.⁴¹ Henry S. Lane, a man of similar pharmaceutical practices if dissimilar political views, noted in his journal that he dosed himself with opium for the “cramp cholera” he suffered during the Mexican War.⁴² Of course not all opium and morphine addicts were rich or distinguished—or even middle class; prostitutes and criminals used these drugs as well. Prior to 1900, however, opium and morphine addiction was primarily an upper-class and middle-class phenomenon.

The most common occupation among female addicts was that of housewife. The majority of nineteenth-century female addicts were married

and therefore stayed at home. Unmarried female addicts were observed among domestics, teachers, actresses, and especially prostitutes.⁴³ Another type, mentioned as early as 1832, was the harried society lady, who downed opium or morphine to steady her nerve and enhance her wit.⁴⁴ Women associated with the medical profession—nurses and doctors' wives—also had an unusually high rate of addiction.⁴⁵

Among male addicts the leading occupation was unquestionably that of physician; sources differ only on how large a percentage of the medical profession was addicted. The most widely quoted estimate was that of Thomas Davison Crothers. Based on a study of 3,244 physicians, he concluded that "from six to ten percent [of the physicians] in this country are opium inebriates."⁴⁶ Thomas J. Happel thought the figure even higher. "I find," he wrote in 1900, "in a list of the names of one hundred and fourteen physicians . . . eighteen who became addicted to morphine—nearly 16 percent."⁴⁷ In 1913 Bittle C. Keister announced to a startled audience that fully 23 percent of the medical profession were victims of morphine addiction.⁴⁸ Asylum records, although they cannot be used to establish an exact percentage, on the whole support charges that physicians had a serious addiction problem.⁴⁹ Country doctors, with their especially arduous routine, were said to have made up a disproportionate share of physician-addicts.⁵⁰ However, no stratum of the profession was exempt; cases of physician-addicts as eminent as William S. Halsted, pioneering surgeon and professor at Johns Hopkins, have been documented.⁵¹ Members of the allied health professions, notably dentists and pharmacists, also had a high rate of addiction.⁵²

"Brain workers" and "professional men" were other occupational categories frequently cited in connection with opium and morphine addiction.⁵³ Data on white-collar addiction is sketchy, however. Businessmen, lawyers, clerks, clergymen, and the like are mentioned in surveys,⁵⁴ but in such a way that it is impossible to tell precisely how many of their number were addicted. Among male occupations with a low rate of addiction, sailors were prominently mentioned. Cut off for months or years at a time from a regular supply of opiates, it is unlikely that many of their number became addicted.⁵⁵ Active farmers and skilled and semiskilled workers were also cited as low-addiction groups, although the exact rates are not known.⁵⁶

There is, by way of summing up, a character in Harper Lee's novel *To Kill a Mockingbird* named Mrs. Henry Lafayette Dubose. Mrs. Dubose is a propertied and cantankerous widow residing in a small Alabama town.

She is also a morphine addict, having become addicted years ago as a consequence of a chronic, painful condition. Informed that she has only a short while to live, she struggles to quit taking the drug, for she is determined to “leave this world beholden to nothing and nobody.”⁵⁷ Although fictitious, Mrs. Dubose personifies the American opium or morphine addict of the late nineteenth and early twentieth centuries. If all of the foregoing statistics were condensed into a single, modal type, it would closely resemble Mrs. Dubose: a native Southerner, possessed of servant and property, once married, now widowed and homebound, evidently addicted since late middle age. In all respects—her sex, age of addiction, race, nationality, region, class, and occupation (or lack thereof)—she is typical. Typical, too, is the origin of her condition: she was addicted by her physician.

Medical Administration

The administration of opium and morphine by physicians was the leading cause of addiction in the nineteenth century, and the principal reason opium and morphine addiction assumed the pattern just described. Estimates of the number of opium and morphine addicts who could trace their plight back to their doctor ranged from a simple majority to 99 percent.⁵⁸ The problem became particularly acute with the spread of hypodermic medication during the 1860s and 1870s, when morphine injection became a virtual panacea. In spite of repeated warnings, therapeutically engendered addiction remained a serious problem until the early twentieth century, when the American medical profession largely abandoned its liberal use of opium and morphine.

Before tracing in detail the course of iatrogenic addiction, I need to qualify one term, *physician*. When I speak of physicians causing or contributing to addiction, I refer to regular practitioners. Sectarian practitioners, thanks to their distinctive therapeutic regimens, seldom addicted anyone. Thomsonians denounced the use of opium; their successors, the eclectics, used it, but with circumspection; the homeopaths believed that opiates, as all drugs, should be administered only in minuscule amounts.⁵⁹ Hydropathy, osteopathy, chiropractic, and Christian Science all advocated drugless therapy.⁶⁰ Regular practitioners, on the other hand, freely used drugs, including opium and morphine, throughout the period.⁶¹ It is on the regulars, therefore, that I intend to focus.

The therapeutic use of opium was passed down to the American physician as an ancient and honorable practice, sanctioned by the greatest medical authorities over many centuries.⁶² The drug had been employed by figures no less illustrious than Galen (A.D. 130–201), Paracelsus (1493–1541), Franz de la Boë (1614–1675), Thomas Sydenham (1624–1689), Herman Boerhaave (1668–1738), and John Brown (1735–1788).⁶³ The basis for opium's lasting popularity is not its curative power, but rather its analgesic properties. No other naturally occurring drug can match it as an anodyne, a fact recognized by even the most skeptical contemporaries. When Oliver Wendell Holmes, Sr., made his famous remark, "I firmly believe that if the whole materia medica, *as now used*, could be sunk to the bottom of the sea, it would be all the better for mankind,—and all the worse for the fishes," he specifically exempted opium, a medicine "which the Creator himself seems to prescribe."⁶⁴

The therapeutic use of opium was common in colonial America,⁶⁵ although one cannot even begin to estimate the total amount dispensed. During the eighteenth century the drug was given to dull pain, induce sleep, control insanity, alleviate cough, check diarrhea, and treat a wide range of communicable diseases, including malaria, smallpox, syphilis, and tuberculosis.⁶⁶ In 1785 an American physician, John Leigh, captured the Harveian Prize with his study, *An Experimental Inquiry into the Properties of Opium and Its Effects on Living Subjects*. Leigh's list of indications was typically long and comprehensive, and he ended it with the observation that opium also served "to afford much relief to the various spasmodic symptoms of dyspepsia, hysteria, hypochondriasis, asthma, & c & c."⁶⁷ The inclusion of psychosomatic disorders and the use of the double et cetera is revealing; it is almost as if he appended to his statement "and virtually any other distressing or painful mental or physical condition."

When available, opium was used by Continental Army physicians to treat sick and wounded soldiers during the Revolutionary War. British forces made use of the drug as well. The military demand, together with the disruption of trade, dried up the regular supply—a situation that alarmed civilian practitioners. "Opium is an article," wrote Dr. Thaddeus Betts in 1778, "which no physician ought ever to want; it is so extensively useful, and in cases so perilous and urgent, where no substitute will supply its defect, that physic . . . would be lame and deficient without it." Betts met the crisis by growing and harvesting his own poppies, a practice he strongly recommended to his colleagues.⁶⁸

Some eighteenth-century American physicians had other cause to worry about sources of supply: they themselves were opium addicts. Dr. James Hurlbut (1717–1794), for example,

would not prescribe or even look at a patient in the last years of his life, till the full bottle of spirits was placed in his entire control, and daily replenished; it was his practice to take very frequently small portions, and at the same time swallow enormous quantities of opium. For many of his last years all the avails of his medical practice were expended in the purchase of this one drug; his spirits he obtained from his employers, which was a heavy tax, and he probably took as much opium as the most devoted Turk.⁶⁹

Recorded cases are scarce, but there is at least one other, cited in 1803 by Benjamin Rush, of a German physician in Pennsylvania who became degraded through continuous use.⁷⁰ There are also a few sketchy case histories of laymen addicted during the eighteenth century, mostly for medical reasons.⁷¹ On the whole, however, there is nothing to indicate that opium addiction was a widespread problem; at least there was no great outcry in the medical literature. In the letter mentioning the Pennsylvania physician, Rush remarked that he had been acquainted with but two other addicts during the previous ten years.⁷²

Opium remained a popular therapeutic agent throughout the first half of the nineteenth century. When Alexander Hamilton lay dying, a bullet lodged in his shattered spine, it was for the laudanum bottle that his physician instinctively reached to alleviate his patient's suffering.⁷³ When Connecticut physician Vine Utley was confronted with a double epidemic of pneumonia and typhus fever in 1812–1813, he resorted to the lancet and liberal doses of opium. "From the beginning," Utley explained, "I did not hesitate as to the most earnest and judicious principles to follow in the arduous task of combating the prevailing epidemic, for I had long ago adopted the American theory (ie) 'to prescribe for the symptoms without being solicitous to give the disease a name.'"⁷⁴

Lesser afflictions were treated with opium as well; Nathaniel Chapman, author of the first systematic treatise on pharmacology published in the United States (1817), judged it the most useful drug in the *materia medica*, "there being scarcely one morbid affection or disordered condition, in which, under certain circumstances, it is not exhibited, either alone, or in combination."⁷⁵ Opium's continued popularity was due in part to the Brownian cast of American medicine in the early nineteenth

century. The influential Scottish physician John Brown held that diseases were of two types: *sthenic*, resulting from too much stimulus, and *asthenic*, resulting from too little. The latter could be cured by administering stimulants, notably opium and alcohol, to restore the body to its proper level of excitability.⁷⁶ Not every American physician held with Brown that opium was a stimulant; Valentine Seaman, for one, argued that opium acted as a sedative.⁷⁷ Whatever their opinion of opium's essential properties, most American physicians shared Brown's enthusiasm for the drug; by 1834 it was ranked as the single most widely prescribed item in the *materia medica*.⁷⁸

Opium's principal alkaloid, morphine, was also employed after the method for its isolation was published in 1817.⁷⁹ Morphine crystals had definite advantages; they were pure and of consistent potency, qualities imported opium often lacked.⁸⁰ Nevertheless, morphine did not supplant opium as the therapeutic opiate of choice until the spread of hypodermic medication during the 1860s and 1870s. Not only did morphine cost more, but, as one student shrewdly observed, doctors "never . . . abandon an article whose virtues are known, and universally acknowledged, for one not yet proved, but just introduced."⁸¹

Although there was as yet no ground for criticizing professional overuse of morphine, a number of writers began commenting on the injudicious use of opium.⁸² Prior to 1830 much of the literature on opium was concerned with overdose and its treatment, but after that date opium addiction was discussed more and more frequently.⁸³ In 1841, for example, a Mr. M'Gowan read a paper before the Temperance Society of the College of Physicians and Surgeons of the University of the State of New York, charging that there were 3,000 to 5,000 habitual opium users in New York City alone.⁸⁴ While the accuracy of M'Gowan's statistics may be questioned, the fears he voiced were genuine and seem to have been shared by a growing number of American physicians.

The newfound concern expressed between 1830 and 1860 suggests that something happened during those decades to increase the rate of addiction, or at least to make the problem more visible. One possible explanation involves a series of severe epidemics that struck the United States: cholera in 1832–1833, dysentery from 1847 to 1851, and cholera again between 1848 and 1854. Cholera and dysentery, diseases that afflicted thousands of persons, were routinely treated with opiates,⁸⁵ and it seems reasonable to suppose that some exhausted survivors continued the medication long enough to become addicted. Certainly this is consistent with

the sharp increase in crude opium imports observed in the late 1840s (see Figure 2), when both cholera and dysentery were prevalent—although, as noted earlier, this increase was also partly due to changes in tariff policy. In any event opium addiction, whether from treatment of epidemic disease or some other factor, ceased to be regarded as a relative curiosity and by 1860 had assumed the status of a significant medical problem.

Problem became crisis during 1860 to 1880. Two events, the Civil War and the spread of hypodermic medication, triggered a massive increase in iatrogenic opium and especially morphine addiction. For simplicity I here consider only hypodermic medication, as practiced by civilian doctors upon civilian patients; the impact of the Civil War, a subject about which there is some controversy, will be discussed later.

Like any other new device, the hypodermic syringe (first brought to America in 1856) was greeted with skepticism.⁸⁶ But the writings of Antoine Ruppaner, Roberts Bartholow, and others, plus the firsthand experience of some physicians with it during the Civil War, helped persuade the profession of the value of the instrument.⁸⁷ Promoters also played upon professional insecurities, noting that practitioners of standing were quick to avail themselves of the advantages of the syringe and implying that those who did not were in danger of falling behind.⁸⁸ The percentage of American physicians who practiced hypodermic medication grew dramatically during the 1870s; by 1881 virtually every American physician possessed the instrument.⁸⁹

The hypodermic syringe was developed for the purpose of injecting morphine, and this proved to be its most popular use during the nineteenth century.⁹⁰ Morphine injected hypodermically avoided the unpleasant gastric side effects of opiates administered orally;⁹¹ it also produced stronger feelings of relief and euphoria, and it produced them much more quickly. New Orleans surgeon Charles Schuppert, called upon to treat a man wounded in a barroom fray, vividly described the strength and rapidity with which an injection of morphine worked. “I was immediately summoned,” he noted in his casebook, “and on my arrival . . . found him in a deep stupor from the effects of liquor and bleeding profusely. I gave him an injection of morphine subcutaneously of ½ grain, this acted like a charm, as he came to in a minute from the stupor he was in and rested very easy.”⁹²

Although effective in the short run, such treatment enhanced the likelihood of addiction in several ways. The patient, instantly reinforced by the relief of pain and infused with a sense of well-being, would have re-

membered the wonderful effect of the drug administered in this way and would likely have requested the same treatment in the future, particularly if he suffered from a chronic disease and experienced recurring pain. The physician, for his part, was also reinforced by the injection. His patient responded quickly; pain disappeared and mood improved. Praise was effusive and patronage continued. More important still was the sense, which must have been precious for the frustrated nineteenth-century physician, that he could at last do something for the patient; for the first time in the entire history of medicine near-instantaneous, symptomatic relief for a wide range of diseases was possible. A syringe of morphine was, in a very real sense, a magic wand. Though it could cure little, it could relieve anything; doctors and patients alike were tempted to overuse.

I do not mean to imply, however, that all patients who received morphine injections subsequently became addicted. Why some succumbed and others did not is an interesting and potentially controversial question. Rather than postulate personality defects or endorphin deficiencies in those who became addicts, as some authors do, I propose that the circumstances of administration plus the nature of the patient's illness were the most important factors in determining who became addicted.⁹³ In order to become addicted to an opiate, one must first become physically dependent, that is, experience withdrawal symptoms if the drug is discontinued. In order to become physically dependent, one must consume the drug continuously over a period of time, perhaps 10 to 14 days.⁹⁴ Ideally, then, to avoid iatrogenic addiction, measures should be taken to ensure that opiates are administered as infrequently as possible.⁹⁵ Nineteenth-century physicians seldom achieved this ideal. If they did not by repeated administration addict the patient themselves, they often made addiction possible by leaving morphine and syringe with the patient or the patient's family, with instructions to use as needed for pain.⁹⁶ Nothing prevented the patient from increasing the frequency and amount of the dose on his own initiative. Another practice that heightened the risk of addiction was mentioning the name of the pleasing anodyne the patient was receiving. This information was dangerous for several reasons. First, if dependence resulted, addiction might still have been avoided if the patient was unaware that his withdrawal distress resulted from the absence of morphine and thought his discomfort a sequel to his illness; on the other hand, if the physician failed to disguise the medication, and the patient learned that he could alleviate withdrawal distress simply by continuing the morphine, addiction was bound to occur.⁹⁷ Another danger, particularly acute in the

nineteenth century, when morphine and other opiates were freely available, was that the patient, if he knew what he was taking, could supplement the prescribed dose, or continue to consume the drug after the physician had ceased prescribing it.⁹⁸ These risks were compounded if the patient suffered from a chronic disease. For physical dependence will soon develop if, as soon as an injection wears off, symptoms recur and the patient's doctor or the patient himself immediately administers more of the drug.⁹⁹

Case histories, clinical notes, and remarks in the medical literature support the view that although opium and morphine were ultimately given for practically everything, even for such unlikely disorders as masturbation, photophobia, nymphomania, and "violent hiccough,"¹⁰⁰ it was principally in those suffering from chronic ailments that use of these drugs led to addiction. Those afflicted with neuralgia seemed especially prone to addiction, as morphine was commonly employed to treat neuralgic attacks.¹⁰¹ Another common recurring nervous disorder, headache, was also treated with opium and morphine.¹⁰² Women suffering from "female complaints," particularly dysmenorrhea, were similarly dosed. "Uterine and ovarian complications," wrote one observer, "cause more ladies to fall into the habit, than all other diseases combined." As late as 1908 the State Hospital at Independence, Iowa, reported that most of the female addicts became addicted through palliation of dysmenorrhea.¹⁰³ Alcoholics seeking relief from hangover or delirium tremens often became addicted.¹⁰⁴ Patients suffering from chronic respiratory disorders (asthma, bronchitis, tuberculosis) or infectious diseases of long duration, especially chronic diarrhea, dysentery, malaria, or syphilis, were also likely candidates.¹⁰⁵ Other addicts had histories of rheumatism.¹⁰⁶ Postoperative syndromes, such as neuroma, took their toll.¹⁰⁷ Finally, it was often mentioned that insomnia, anxiety, and fatigue resulting from overwork could, if treated with opium or morphine, easily lead to addiction.¹⁰⁸

The fact that the overwhelming majority of opium and morphine addicts suffered from one or more of these conditions goes far toward explaining why certain groups had an elevated incidence of addiction. The higher rate of women derives, in part, from the prevalence of dysmenorrhea and other gynecological disorders. The habit of middle-class and upper-class females' complaining of (or of being diagnosed by male doctors as suffering from) "diseases of a nervous character" could only have aggravated the problem.¹⁰⁹ The onset of opium and morphine addiction in middle age or later is also partially attributable to the nature of these disorders; it is unlikely that there were too many patients under the age of 25

suffering from arthritis, delirium tremens, chronic headache, bronchitis, and the like. The age factor may also help to explain the lower black addiction rate, as relatively fewer blacks lived long enough to develop the chronic diseases associated with aging.¹¹⁰ Of even greater importance was the fact that, owing to poverty, discrimination, and a lack of physicians of their own race, many blacks were prevented from seeking professional medical care.¹¹¹ It is possible that the inaccessibility of doctors worsened the already high mortality rate of blacks, but at least it spared them the risk of iatrogenic opium and morphine addiction. Southern whites, on the other hand, did have access to drug-dispensing physicians and, of equal importance, were often afflicted with malarial and diarrheal diseases. The presence of these endemic diseases, together with the lingering trauma of the Civil War, ensured that Southerners would suffer a higher rate of addiction.¹¹²

There were, by contrast, fewer candidates for addiction among northern immigrants. Lack of funds for professional medical care undoubtedly played a role; the weeding out of the weak and the chronically ill by the Atlantic passage may have been an additional factor. As Oscar Handlin put it, "The crossing in all its phases was a harsh and brutal filter." Most of the immigrants who passed through the filter, moreover, were male, and men tended to have a lower rate of addiction, at least in the nineteenth century.¹¹³ Similar circumstances may have protected native farmers and industrial workers. These groups too were predominantly male; they did not have a great deal of money to spend on doctors; and it was unlikely that many seriously or chronically ill persons were able to pursue such active callings. Finally, the widespread use of opium and morphine as tranquilizing and somniferous agents helps explain why so many physicians and other health professionals became addicted. Long and irregular hours, stiff competition, and constant pressure from impatient patients sorely tempted the physician to treat his headache or insomnia with opium or especially morphine, a drug that he knew to be quick, effective, and readily available.¹¹⁴ As many as 12,000 physicians were addicted in this way, a professional pandemic that struck some as a kind of ironic justice.¹¹⁵

The creation of addicts through the hypodermic administration or self-administration of morphine for stress or chronic illness continued unabated until the late 1890s. This prolonged, excessive use of morphine was made all the more remarkable by the fact that, beginning in 1870 and continuing through the 1880s and 1890s, warnings about the possibility of iatrogenic morphine addiction appeared in numerous books, journal

articles, and published speeches.¹¹⁶ The physician was cautioned, often sharply, that the drug should be used sparingly, avoided in chronic cases, disguised if possible, never refilled without permission, and above all that the patient should never be left with a syringe and a supply of morphine with instructions for self-medication.¹¹⁷ These animadversions were reinforced by a growing body of European addiction literature, in which English, French, and German doctors decried similar abuses in their own countries.¹¹⁸ Why then, in spite of numerous warnings, did American physicians persist in creating addicts?

Critics of the profession charged that a major source of continued abuse was inadequate medical education. Not only was the graduate of a typical proprietary school ill-informed about the danger of repeated administration of opiates, but his general lack of diagnostic skills tempted him to fall back on blind, symptomatic treatment.¹¹⁹ Ignorance combined with indolence was doubly dangerous. "When a doctor is called near a patient complaining of pains," wrote one experienced physician, "and he does not want to bother about making a diagnosis, or he wants to go fishing, he simply resorts to the ever-ready hypodermic of Morph. Sulp. $\frac{1}{4}$ grain." Another summed up: "Opium is often the lazy physician's remedy."¹²⁰ In a sense the indolent or incompetent practitioner was like the carrier of a communicable disease; though not necessarily himself an addict, he might succeed in transmitting addiction to patients with whom he came into contact. Thus the number of addicts in a given place hinged, in part, on the training and conscientiousness of the local practitioner, a fact that helps explain the apparently random distribution of addicts in the Michigan towns surveyed.¹²¹

In addition to laziness and incompetence, greed was cited as a reason for continued abuse. When a "physician is called for the first time to a well-to-do home," observed one group of skeptical pharmacists, he realizes that "a practice might be secured which would be valuable if he can only show his ability, and he does—there is not very much pain in the prick of a needle, and the result is so quick, so calming—wonderful man,—the patient begins to improve at once."¹²² The upper-class background of many addicts is certainly consistent with the allegation that some doctors courted the wealthy client with a little morphine. Even worse, it was common practice for "quack cure joints" to offer 10 to 20 percent kickbacks for referring addicted patients.¹²³ The utterly unscrupulous practitioner could realize a handsome profit by addicting patients and then having them trek from one asylum to another—asylums with which he had an arrangement.

To the vast majority of physicians, of course, such practices were unthinkable. In fairness, too, it should be pointed out that there were formidable pressures acting on the individual physician to disregard the warnings and proceed as he had before. Simple distance, rather than laziness or incompetence, prompted many doctors to leave opium or morphine with the patient.¹²⁴ Before the automotive age it was practically impossible, especially in the countryside, for the physician to administer every dose himself, as the learned journals were admonishing. Moreover, doctors were often under tremendous pressure from patients and their families to continue the treatment indefinitely; it felt good, it relieved the pain. "Most impatiently did she await the injection," wrote one physician of a neuralgic female, "always exclaiming, as I entered—'Oh doctor, shoot me quick!'"¹²⁵ Complicating matters further was the doctor's knowledge that, if he did not "shoot quick," a competitor would, thereby gaining a patient.¹²⁶ Or the patient might simply persuade a druggist to refill the prescription without the physician's knowledge. Nineteenth-century pharmacists were notorious for their willingness to supply a user; opium and morphine were their bread and butter, and there is no steadier customer than an addict. "There are druggists in Houston, now," complained Dr. Newton J. Phenix in 1896, "making a living selling narcotics."¹²⁷ Confessed a New York apothecary, "If it were not for this stuff [morphine] and my soda-water I might as well shut up shop."¹²⁸ The efforts of even the most conscientious physicians to check repeated administration were thus undermined.

It was not until the years 1895 to 1910 that physicians managed to slow and then reverse altogether the growth of iatrogenic morphine addiction. Underlying this change was the growing acceptance of the germ theory of disease,¹²⁹ an event that had several important and interrelated consequences. Public health measures, reinforced and rationalized by the new bacteriology, reduced the incidence of gastrointestinal disorders, such as diarrhea and dysentery, for which opium and morphine had been freely given.¹³⁰ Vaccination, as against typhoid fever (1896), or chemotherapy, as against syphilis (1909), began to provide effective alternatives to opium and morphine for a few diseases. Moreover, the achievement of greater diagnostic precision, made possible by the discovery and classification of pathogenic microorganisms and by the development of new techniques, such as x-radiation, discouraged the unthinking palliation of disease; doctors who shot first and asked questions later were increasingly criticized for masking the symptoms of illnesses otherwise diagnosable and treatable.

In the event symptomatic relief was still indicated, a host of new and less

dangerous anodynes became available. The introduction of milder analgesics, the salicyclates and aniline and pyrazolone derivatives, constitutes the second major reason for the decline of iatrogenic opium and morphine addiction. Although these antipyretics were originally introduced for the purpose of reducing fever, their pain-relieving qualities soon became apparent, and in 1889 James F. A. Adams published an important article in the *Boston Medical and Surgical Journal* urging their wholesale substitution for opiates.¹³¹ A decade later Adams' proposal, which had already won a number of adherents,¹³² received an important impetus with the accidental discovery of the analgesic properties of aspirin in 1899. The introduction of this common household drug, highly effective against head, muscle, and joint aches, undoubtedly saved thousands of persons from becoming addicted to opium or morphine.

Reinforcing the growth of narcotic conservatism brought about by bacteriological advances and the availability of safer analgesics were the stern injunctions against the liberal use of morphine issued by a new generation of medical educators. During the 1890s warnings previously confined to medical journals began percolating into medical curricula. Advice offered in one generation of textbooks was frequently contradicted in the next, as seen in the writings of two famous American gynecologists, William H. Byford and his son, Henry T. Byford. In his 1865 text, *The Practice of Medicine and Surgery Applied to the Diseases and Accidents Incident to Women*, the elder Byford counseled the use of opium in dysmenorrhea as a part of an "energetic palliative treatment," standard practice for the time.¹³³ However, in the 1898 *American Text-Book of Gynecology*, co-authored by the younger Byford, this course was condemned in the strongest possible terms: "He who is compelled to resort frequently to opium and stimulants in dysmenorrhea, must be considered devoid in diagnostic ability, and consequently ought not to be entrusted with the management of such cases."¹³⁴ Similar sentiments were expressed by neurologist William J. Herdman. "I have not failed in my attempt," he remarked in 1902, "to impress on the minds of my students how unwise is the indiscriminate use of these powerful drugs."¹³⁵ Other commentators directed their message to the practicing physician, emphasizing that the best doctors were the most sparing in their use of opiates. "In the last four or five years," boasted Professor Walter F. Boggess, "I have not written a prescription [of opiates] for the relief of pain."¹³⁶ On the legislative front physicians, joined by an increasing number of professionally minded pharmacists, pressed for laws restricting the availability of narcotics. From 1895 to 1915 most

states and many municipalities passed laws limiting the sale of narcotics (usually defined as cocaine and the opiates) to those possessing a valid prescription.¹³⁷ Although these laws were unevenly and often inadequately enforced, their net effect could only have been to reduce the number of unauthorized refills.¹³⁸

Fewer prescriptions for opium and morphine were being written in the first place. A 1908 sampling of 1,000 prescriptions from the files of a representative California druggist showed 18 containing opium, 11 morphine, and 7 codeine, plus 4 cocaine, altogether 3.6 percent with some form of opiate.¹³⁹ This represents a considerable drop from the 14.5 percent for Boston (1888) and the 24.5 percent for New Orleans (circa 1877–1889) cited earlier. Moreover, it was the younger and better-educated members of the profession who were primarily responsible for such decreases. In 1919 Thomas Blair published the results of a painstaking study of opiate prescription by Pennsylvania physicians. He found that 90 percent of all opiates were prescribed by one-third of all doctors. The conservative majority was composed largely of “modern practitioners, either young or keeping abreast of the times,” skilled in diagnosis and case management, and thoroughly warned of the danger of iatrogenic addiction. The lax physicians, by contrast, were predominantly over 50 and had received their education when “the narcotics-menace was not stressed.”¹⁴⁰ With time the conservative majority would grow even larger, as death and retirement thinned the ranks of the older practitioners.

By 1910 the reform movement within the medical profession was well on its way to eradicating iatrogenic addiction. Opium and morphine had fallen into such disfavor that some physicians began to worry that they might be withheld in even the most dire cases. “The present generation has been so thoroughly warned, both by teaching at college and by observation,” wrote New Hampshire physician Oscar C. Young in 1902, “that now they are in many instances so very afraid to give it, even for the worst pain, that the patient suffers agonies worse than any hell for want of one-eighth of a grain of morphine.”¹⁴¹ Although a dwindling number of physicians continued—out of ignorance, expediency, or cupidity—to rely on the syringe, the overall effect of the profession’s newfound narcotic conservatism was a reduction in the number of opium and morphine addicts; old addicts died off faster than new ones were created.¹⁴² This was the principal reason that imports of medicinal opiates, the most sensitive barometer of iatrogenic addiction, declined in both per capita and absolute terms during the first decade of the twentieth century.¹⁴³

Impact of the Civil War

The traditional explanation of the increase in opium and morphine addiction has focused not so much on the civilian practitioner as on his military counterpart. During the Civil War sick and wounded soldiers, liberally injected with morphine, frequently became addicted—as did many veterans who, in the course of treatment for war-related injuries, were also given opiates. Proponents of this view often refer to the fact that during the nineteenth century morphine addiction earned the sobriquet “the army disease.”¹⁴⁴

There are, however, several objections to this theory. In the first place, the majority of nineteenth-century opium and morphine addicts were women. If the Civil War was such an important factor, why should the Michigan (1878), Chicago (1880), and Iowa (1885) surveys have reported so many female addicts? In the second place, there is reason to doubt that hypodermic injection of morphine, the technique most likely to produce addiction, was common during the war. Hypodermic medication was still in its infancy; few American physicians had syringes in 1860; and it appears that the instrument was not issued in quantity by the medical department of either the North or the South.¹⁴⁵ Those army doctors who happened to have access to a syringe no doubt used it freely; they were, however, decidedly in the minority. For these and other reasons recent scholarship has downplayed the significance of the war; one writer, Mark A. Quinones, has gone as far as to label it a scapegoat on which the spread of addiction was subsequently blamed.¹⁴⁶

The essential insight of the critics, that the explosive growth of addiction from 1865 to 1895 was more than an epidemic of the army disease, is undoubtedly correct. In making this point, however, one must take care not to overstate the argument; there is still a good deal of evidence that the war contributed to the spread of addiction, even if it was not the sole cause. Although morphine injection may have been relatively rare, oral administration of opium was not; massive quantities of the drug were consumed by both armies. Nearly 10,000,000 opium pills and over 2,841,000 ounces of other opium powders and tinctures were issued to Union forces alone. Soldiers recuperating from battlefield wounds were routinely dosed with opium, as were the victims of the common camp diseases—diarrhea, dysentery, and malaria. Circumstances of administration were casual. One Confederate physician, William H. Taylor, asked every patient he saw whether his bowels were open or shut. If the answer was

open, Taylor handed him a plug of opium. Union Surgeon Major Nathan Mayer did his diagnosing from horseback. If he thought a soldier needed morphine, he would pour out an "exact quantity" and then let the soldier lick it from his hand.¹⁴⁷

When, as often happened, soldiers' diseases and injuries developed into chronic conditions, the likelihood of addiction was enhanced. Even if a disabled soldier survived the war without becoming addicted, there was a good chance he would later meet up with a hypodermic-wielding physician. The anonymous Yankee author of *Opium Eating: An Autobiographical Sketch by an Habituate* suffered just such a misfortune.¹⁴⁸ As a consequence of deprivations suffered at Andersonville and other prisons, the young soldier developed constant headache and racking stomach pains. After he had been discharged, his doctor treated him with injections of morphine, to which he became addicted. His experience was repeated by J. M. Richards, an ex-army surgeon, who began taking morphine in 1867 to combat chronic diarrhea.¹⁴⁹ There were even cases of Methodist chaplains becoming addicted through the treatment of diarrhea.¹⁵⁰ Over 63,000 veterans were plagued with this lingering, debilitating disease; given what is known about the medical practice of the day, it seems likely that a substantial number of them eventually became addicted to opium or morphine.¹⁵¹

The significance of the Civil War, then, comes down to two points. During the fighting, large amounts of opium were issued in circumstances favorable to addiction; after the fighting, sick and wounded veterans greatly expanded the pool of candidates for iatrogenic addiction. The precise numbers and proportions involved are unknown, since addicted veterans went to great lengths to conceal their condition for fear of losing their pensions.¹⁵² It is certain, however, that the war's greatest impact was felt from 1861 to 1900; after 1900 there were fewer and fewer surviving veterans, addicted or otherwise.¹⁵³ The timing is of interest, since the expected die-off of many aging veterans around the turn of the century coincides exactly with the decline in per capita imports of opium and morphine.

Self-Dosage

A third factor in the spread of addiction was self-dosage with medicines containing opium and morphine. In some instances this meant the outright purchase, on a friend's advice and without a doctor's prescription, of

some official preparation of opium, such as paregoric.¹⁵⁴ Another common pattern involved the unwitting consumption of opium or morphine in the form of a patent or proprietary medicine purchased from a druggist, mountebank, or mail-order house.¹⁵⁵

Patent medicines (the term is a misnomer, for most patent medicines carried no patent at all) were secret formulas marketed, usually with the most extravagant claims, by entrepreneurs seeking to capitalize on real or imagined ills.¹⁵⁶ Although these concoctions could contain virtually anything, opium and morphine, with their ability to alleviate a wide range of symptoms, were particularly attractive as ingredients. The career of "Scotch Oats Essence" is typical. One day the originator of this remedy, a young man with an eye on the main chance, asked his physician in an off-hand manner how he would prepare a successful patent medicine. "Oh, well," replied the doctor, "make the basis whisky; put in some opiate; disguise the whole with a bitter tincture; get high-sounding testimonials or indorsements, and especially give it an attractive, 'taking' name. Then extensively advertise it from 'Dan to Beersheeba' and the thing is done." The young man, evidently impressed with the simplicity of the scheme, did precisely that. Scotch Oats Essence enjoyed a successful, if devastating, career as a nerve tonic, until someone analyzed the solution and announced that it contained morphine. "As a result the sales fell off, insolvency and financial ruin followed. Then the proprietor drank himself to death, mortified at his failure and public exposure."¹⁵⁷ Ruin following exposure was a fate common to many narcotic nostrums, a point to which I shall return.

The number of opium and morphine addicts who could trace their plight to self-medication is not known, but certainly they were in the minority. Statistical summaries of addicts seen by Charles Terry in Jacksonville (1912, 1913) and by Lawrence Kolb (1923) establish that prescription or administration by physicians, rather than self-medication, was the most important factor.¹⁵⁸ The social background of opium and morphine addicts underscores the importance of iatrogenic addiction. Patent medicines were used mainly by the poor,¹⁵⁹ yet the majority of addicts were from either the middle or the upper class, that is, they were people who could afford doctors.

One possible explanation for the observed class difference is that direct administration by a physician was more likely to lead to addiction than disguised consumption in the form of a patent medicine. This inference may seem counterintuitive; morphine by any other name is still morphine. The

difference is that the farmer who nursed a bottle of Scotch Oats Essence was blissfully unaware of its habit-forming potential; if physical dependence occurred and withdrawal symptoms ensued, he still might have escaped addiction by attributing his sickness to something other than discontinuation of the medicine. If, on the other hand, he, like most doctors' patients, discovered that he had become dependent on morphine and that he could forestall withdrawal symptoms simply by consuming more of the drug, then he was almost sure to become addicted.¹⁶⁰ Hence the very secrecy that surrounded the nostrum served in some instances to prevent addiction to it.

There are other reasons why narcotic patent medicines did not spawn as many new addicts as physicians; these involve the purposes for which the products were advertised. First, there was a class of opiate-laced nostrums, known as soothing syrups, which were promoted as infant pacifiers. Bawling babies were regularly stupefied into silence by impatient mothers or nurses who resorted to these syrups, as well as to other opium preparations. "Paregoric by the bottle/Emptied down the baby's throttle," ran one old but true ballad.¹⁶¹ Naturally, if the infant survived this regimen (and thousands did not), dependence might easily form. But, again, dependence was unlikely to develop into full-blown addiction, for the infant would not have comprehended the nature of its withdrawal distress, nor could it have done anything about it.¹⁶²

The second special class of narcotic patent medicines was made up of the numerous habit cures. These nostrums, labeled "Opacura," "Denarco," and the like, were the most outrageous frauds; invariably they contained the drug from which they promised freedom. A person who set aside the syringe to take up the cure was simply maintaining his habit in a different and more expensive way. One man spent "over a thousand dollars endeavoring to get rid of the habit" before he discovered, after 11 years, that his bottled morphine cure contained largely morphine.¹⁶³ As reprehensible as these products were, they at least did not create new addicts; only persons already addicted would be tempted to buy them. So in the special cases of infants' soothing syrups and habit cures, narcotic patent medicines cannot be held responsible for the spread of opium and morphine addiction. It was instead those nostrums purporting to cure some specific, chronic disease (such as "Prof. Hoff's Consumption Cure," containing opium) that were likely to have contributed to the problem.

After 1906 the narcotic patent medicine situation was drastically altered by federal legislation. The provision of the Pure Food and Drug Act that

packages and labels on medicines must state any narcotic content destroyed the market for habit cures and reduced the demand for other opium and morphine products. As one chemist put it, "The average sufferer . . . took alarm at the names of these familiar poisons on his medicine bottle, and feared to use the medicine."¹⁶⁴ Consequently opium and morphine were dropped from many proprietary formulas.¹⁶⁵ Other patent medicines retained their narcotic contents, but only at the risk of being shunned by the increasingly chary buyer. Thus unwitting addiction through patent medicines, a factor of limited importance before 1906, declined still further with the passage of the Pure Food and Drug Act.

Nontherapeutic Usage

The three factors examined thus far, administration by physicians, the Civil War, and self-dosage, have all been of a therapeutic nature: the addiction process commenced with the treatment or self-treatment of some injury or disease. Some addicts, however, began in an entirely different way. They turned to opium and morphine either as a stimulus to imagination, or as a substitute for alcohol, or even as a primitive form of birth control.

The use of opium as a stimulus to imagination was closely tied to the writings of Thomas De Quincey, whose popular *Confessions of an English Opium Eater* first appeared in serial form in 1821. Although the *Confessions* touched on many subjects, the passages contemporaries found most intriguing were those that dealt with De Quincey's fantastic opium dreams. As Alethea Hayter, a leading De Quincey scholar, has pointed out, these dreams were more a product of the author's own extraordinary imagination than the drug itself; nevertheless, it was easy for the reader to conclude that he too might journey through fantastic inner realms if only he downed a little opium.¹⁶⁶

Translating De Quincey's influence into a precise number of opium and morphine addicts is, again, impossible. At best one can only attempt to assess the relative importance of the different sources of addiction. While the *Confessions* induced a few literati to dabble in opium, it is doubtful that its overall impact, especially in comparison with iatrogenic addiction, was great. Aside from the few spin-off confessions of writers who mimicked De Quincey,¹⁶⁷ it is extremely difficult to find documented cases of Americans whose addiction stemmed from a reading of the *Confessions*. It is true that nineteenth-century addiction literature contains a number of pointed references to De Quincey, but these remarks are better understood as pro

forma warnings to the unwary than as actual evidence of the extent of his influence. It was almost a literary convention among addiction writers to denounce the famous English opium eater, even though the thrust of their argument was elsewhere.¹⁶⁸

A more likely nontherapeutic route to addiction, at least in America, was the use of opium or morphine by women as a substitute for alcohol. Throughout the nineteenth century it was considered unseemly, by both males and temperance-minded females, for women to drink. Yet there was a powerful temptation, particularly for women of high social station, caught up in the social swirl, for women stranded in rural areas, thoroughly bored with their lot, and for seamens' wives, separated for long periods from their husbands, to resort to some euphoric agent.¹⁶⁹ Opium and morphine, which at least in the initial stages of their use produce euphoria, suited these purposes very well.¹⁷⁰

Opiates also suited the purposes of frustrated women whose aspirations had been blocked by a male-dominated society. Remarkd one anonymous lady of culture:

I am the last woman in the world to make excuses for my acts, but you don't know what morphine means to some of us, many of us, modern women without professions, without beliefs. Morphine makes life possible. It adds to truth a dream. What more does religion do? Perhaps I shock you. What I mean is that truth alone is both not enough and too much for us. Each of us must add to it his or her dream, believe me. I have added mine; I make my life possible by taking morphine. I have managed to prevent it from disfiguring my life, though I know other women who botched it horribly. I am really morphine mad, I suppose, but I have enough will left not to go beyond my daily allowance.¹⁷¹

Even allowing for a measure of self-justification, it seems reasonable to suppose that some embittered and disillusioned women drowned their sorrows with opiates. Alternately, repressed drives and suppressed ambitions may have manifested themselves in physical symptoms, which were in turn alleviated with opiates.

The soothing properties of opiates were not lost on another important female addict group, the prostitutes. Life in the "cribs," entertaining a succession of grunting, sweating males, must have been emotionally devastating; opiates offered an attractive, if temporary, escape. Moreover, the regular use of opiates conferred an important physiological benefit, the

disruption or total cessation of menstruation.¹⁷² An amenorrheal prostitute obviously did not have to contend with either the risk of pregnancy or enforced time off for her monthly period. (Some ladies of refinement, also anxious to conduct their affairs without risk of pregnancy, acquired this contraceptive practice from their sisters in the demimonde.¹⁷³) So it is not surprising that the prostitute-addict figured in several studies, especially those involving urban areas.¹⁷⁴ The particular opiate used, however, varied from time to time and from place to place. Between 1870 and 1910 smoking opium made considerable inroads on morphine as the drug of choice among prostitutes and their underworld companions. Then, between 1910 and 1920, there was a switch back to morphine or, in some places, to its new derivative, heroin.

Despite the undercurrent of nontherapeutic use, the predominant pattern of opium and morphine addiction was medical. As doctors put aside these drugs in favor of new and safer analgesics and superior therapeutic agents and techniques, and as narcotic patent medicines were subjected to adverse legislation, the likelihood of chronic disease or injury leading to addiction diminished sharply. After 1900, aging opium and morphine addicts, including veterans who had become addicted during or after the Civil War, died off faster than new addicts were created. As a result, the more disreputable types of users, notably opium smokers and heroin sniffers, came to constitute a progressively larger share of the total addict population. The transformation of the American opiate addict had begun.

Addiction to Heroin

Heroin, today virtually synonymous in the public mind with opiate addiction, was unknown until the closing years of the nineteenth century. Introduced in 1898 as a cough suppressant, it was, like opium and morphine, employed as a therapeutic agent.¹ Also like opium and morphine, its liberal use led to a bout of iatrogenic addiction, although not on the scale of the morphine epidemic of the 1870s and 1880s. Unfortunately, just as physicians were becoming more circumspect in their use of the drug, heroin became popular among the young as a euphoric agent and as a substitute for smoking opium and cocaine. At first its use was concentrated in the New York City area, but because of fundamental changes in American narcotic laws, heroin spread throughout the country during the 1920s and 1930s.

More precise information is available about heroin addicts than about their predecessors, the opium smokers. The growing national debate over narcotic control stimulated medical interest in heroin addiction, as did the iatrogenic nature of the earliest reported cases. Another factor was World War I; any drug making inroads on draft-age youth was automatically a matter of concern, particularly for the new public health profession. Finally, when the Harrison Act went into effect on March 1, 1915, many heroin addicts sought or were forced to seek treatment in public institutions, thereby giving physicians an opportunity for firsthand observation. Their combined notes, reports, and articles yield sufficient epidemiologic data to fashion a detailed profile of the heroin addict, especially of the nonmedical user as he would have appeared in the era 1910 to 1925.

Characteristics of Heroin Addicts

In contrast to nineteenth-century opium and morphine addicts, the vast majority of heroin addicts were men. Studies conducted by Clifford B.

Farr in the Philadelphia General Hospital, by Harry Drysdale in the Cleveland City Hospital, and by Sylvester R. Leahy in the Brooklyn Kings County Hospital, all published in 1915, showed that 75.8, 80.0, and 95.0 percent of the heroin addicts treated at their respective institutions were male.² At the New York City narcotic clinic (1919–1920) 78.8 percent of the patients, most of whom used heroin, were male; among the cases studied by Lawrence Kolb in 1923, the percentage male was 82.5.³ The only exception to the rule was Jacksonville, where in 1912 Charles Terry reported (on the basis of a relatively small sample) that 54.5 percent of the heroin addicts were women.⁴

Like opium smokers, heroin addicts typically became addicted in adolescence or early adulthood. In Brooklyn the average age of addiction was 19; in Cleveland, and among patients treated at Bellevue Hospital, in New York City, the average age was 20 years, 10 months.⁵ At the Inebriate Hospital in Warwick, New York, the average age at the time of treatment (not addiction) was 22 years, 7 months; morphine addicts, by contrast, averaged 37 years, 5 months.⁶ In 1919 army psychiatrist George C. McPherson and psychologist Joseph Cohen published case summaries of addicted draftees entering Camp Upton, New York, indicating an average age of addiction for heroin users of 19 years, 10 months.⁷ The fact that these men were draftees may have biased the average downward, but it is still noteworthy that within the draft limits of ages 18 to 31, every one of the 37 heroin users listed was addicted by the time he was 26. Approximately three-quarters of the heroin cases examined by Lawrence Kolb were also addicted before age 26, with the average being 22 years, 3 months.⁸ In addition to the purely statistical evidence, there are numerous allusions to the youth of heroin addicts. “Most of the addicts coming under our treatment,” wrote Frank A. McGuire and Perry M. Lichtenstein, physicians at New York City’s Tombs Prison, “are young individuals. It is not uncommon to find boys and girls sixteen and eighteen years of age who give a history of having taken the drug for two years.”⁹ A similar description was offered by Lucius Brown, who characterized Tennessee’s relatively few heroin addicts as “youngsters from 15 to 25 years of age.”¹⁰

Heroin addiction was concentrated among whites, especially during the decade 1910 to 1920. The Chinese continued to smoke opium well into the 1920s and 1930s, and blacks, although they were known to use heroin, did not do so as frequently as whites.¹¹ In 1912 only 9.1 percent of Jacksonville’s heroin addicts were black, although blacks constituted more than half the city’s population.¹² Drysdale and Leahy recorded no black heroin users; McPherson and Cohen found some heroin addicts of “Afri-

can" extraction, although they did not specify how many.¹³ Blacks were not seriously afflicted with heroin addiction until they began migrating in large numbers to northern cities.

One of the few things heroin addicts had in common with opium and morphine addicts, aside from their racial background, was their nationality. The majority of heroin addicts were born in the United States. In New York City Leahy, Charles Stokes, and S. Dana Hubbard found that only 4.3, 16.7, and 30.6 percent of their respective cases were foreign-born, although in 1920 the foreign-born made up fully 36.1 percent of that city's population.¹⁴ Of the draftee-addicts listed by McPherson and Cohen, only 2 of 37 heroin users were born outside the United States.¹⁵

If immigrants were relatively immune to heroin addiction, their children were not. Leahy went on to show that 41.7 percent of his sample was made up of second-generation Americans. While there were no heroin addicts born in either Ireland or Italy, 17 addicts of Irish parentage and 11 of Italian parentage were born in this country. Whereas there was only 1 addicted German and 1 addicted Russian Jew, there were 21 addicts of German parentage and 6 of Russian Jewish parentage born in the United States.¹⁶

Geographically, heroin addicts tended to cluster around New York City; by 1920 probably 9 out of 10 American heroin addicts were within 180 miles of Manhattan. The adjacent states of New York, New Jersey, Pennsylvania, and Delaware all had relatively high rates of heroin addiction.¹⁷ From 1910 to 1916 a few distant cities, such as Cleveland,¹⁸ seemed to be developing a significant heroin problem, but addicts in these places by and large had gone back to morphine by 1920. Morphine use persisted outside the New York City area for some time; in Boston, for example, it lasted well into the 1920s; in Chicago, well into the 1930s.¹⁹

The use of heroin, unlike that of opium or morphine, was concentrated in urban areas. In New York State virtually all of the heroin addicts resided in New York City.²⁰ Within the city itself the seamier neighborhoods, the "tenderloins," harbored the greatest number of addicts. The only figures available on this point, involving 100 addicts (93 heroin, 7 morphine) treated at Warwick, are sketchy. An excerpt from the report, compiled by Dr. E. W. Phillips, reads, "Neighborhood (always from the laborer's viewpoint.) Good, 21; fair, 28; bad, 51."²¹ Exactly what, in Phillips' judgment, constituted "fair" or "bad" is difficult to say, but there is an abundance of other nonstatistical testimony affirming that heroin addiction was focused in impoverished and vice-ridden neighborhoods.²²

Accordingly, heroin addicts tended to be of a lower-middle-class or

lower-class background. "Us[ing] as a standard of comparison the ordinary laborer," Phillips continued, the addicts' social class could be described as "low normal for American communities."²³ Although precise statistics on income are not available, it is safe to assume that most heroin addicts grew up in relatively poor families, in many cases having been recently transplanted from Europe.²⁴ The cost of supporting their habit, especially after restrictive legislation drove up the price of heroin,²⁵ only exacerbated their poverty; drugs came first, necessities later. Hygiene and grooming were frequently neglected. As a group, then, heroin addicts would have struck the public as even worse than "low normal"; pale, emaciated, and shabbily dressed, they often looked more like down-and-outs than respectable laborers.²⁶

When they were employed, heroin addicts generally held unskilled or semiskilled jobs: as drivers, conductors, elevator operators, factory workers, day laborers, longshoremen, painters, bellboys, peddlers, news dealers, soda jerks, and the like.²⁷ A few held skilled jobs, as plumbers or mechanics for instance, while others gave their occupation as salesman, clerk, or actor.²⁸ There were also gamblers and professional criminals, many of whom had a history of opium smoking.²⁹ Some of the female addicts gave their occupation as actress,³⁰ but a substantial number, possibly the majority, were prostitutes. Repeating a pattern observed among the opium smokers, some of these prostitutes lived with addicted lovers, who shared their heroin and their illicit earnings.³¹

The composite heroin addict was thus a young white male who lived in a slum neighborhood in New York or a neighboring eastern city. He was a citizen by birth, though his parents might have been immigrants. Poorly educated, when he worked at all he held a blue-collar job of an unskilled or semiskilled variety. He spent much time on the street, running with a gang, and it was often within the gang that his heroin use began. "Harold" typifies this new breed of addict. He was an orphan, or at least claimed to know nothing about his family. His youth was spent in abandoned houses "somewhere in Joisey," in the company of a juvenile gang that included escapees from various institutions. Group experimentation with opiates, smoking opium among them, was the order of the day. Harold soon became an opiate addict, using not only heroin, but any drug as long as it contained "any kind or quantity of Opium or Cocaine." A vagabond and a petty thief, Harold's appetite for drugs was as eclectic as it was voracious. "To what was he addicted?" wrote an awed physician, "I might answer in all sincerity, 'The Pharmacopoeia.'"³²

Iatrogenic Heroin Addiction

Not all heroin addicts were as omnivorous as Harold, nor did they owe their condition to association with other users. Between 1898 and 1910 there was another round of iatrogenic addiction, and a number of medical addicts were created. The key issue is one of extent: how significant a problem was therapeutically engendered heroin addiction, especially in comparison to street use?

The claim that iatrogenic heroin addiction was widespread was developed first and most forcefully in Charles Terry and Mildred Pellens' 1928 study, *The Opium Problem*. In this, as in all of their writings, Terry and Pellens stressed the prevalence of iatrogenic addiction, whether to opium, morphine, heroin, or codeine, and tended to portray the addict sympathetically, as the innocent victim of a careless practitioner.³³ Their argument regarding heroin ran as follows. Introduced in 1898 as a substitute for codeine and morphine, the drug was enthusiastically received by the European and American medical communities. It was recommended for every variety of complaint and enjoyed wide popularity as a therapeutic agent. Worse, it was touted as nonhabit-forming and was even endorsed as a cure for morphine addiction. Warnings that heroin was addictive accumulated gradually. It was not until 1910 that the profession fully awoke to the danger; by that time "a great many" heroin addicts had been created inadvertently.³⁴

There are, however, several problems with this account. If the medical profession was as culpable as Terry and Pellens suggested, why was the iatrogenic heroin addict by 1914 clearly labeled as a minority type? Terry himself admitted that most of the Jacksonville heroin addicts owed their plight to dissipation.³⁵ "The present heroin habitué," wrote neuropsychiatrist Pearce Bailey in 1915, "rarely accuses a physician of being the one who introduced him to his cruel master. The first dose of heroin is neither pill nor hypodermic injection taken to alleviate some physical distress, but is a minute quantity of a fine powder 'blown' up the nose at the suggestion of an agreeable companion who has tried it and found it 'fine.'"³⁶

Statistics bear out this interpretation. In 1912 Massachusetts physician Paul K. Sellev published an account of 9 cases of heroin addiction. Although he intended his article as a warning to the profession to avoid overprescribing the drug, only 2 of his cases were of therapeutic origin. The remaining 7 began using heroin through curiosity or dissipation, or as a substitute for smoking opium.³⁷ Of 18 heroin addicts treated by Stokes

in 1917, 17 listed “companions” as the source of their addiction. Only 1 claimed medical reasons, citing a vague genitourinary ailment.³⁸ Finally, there was a retrospective study undertaken in 1927 by Lawrence Kolb and John H. Remig, inspector for the Pennsylvania Department of Health’s Bureau of Drug Control. The sample was largely confined to opiate addicts who became addicted through medication or self-medication during the years 1898 to 1924, that is, after heroin was discovered and before its use was outlawed in the United States. Of the 150 cases examined, only 2 (1.3 percent) involved heroin, a woman addicted in 1906 and a man addicted in 1911. The remainder began with some form of morphine (94.0 percent), paregoric (2.7 percent), or tincture of opium (2.0 percent).³⁹ Something kept medically related heroin addiction to a minimum, in comparison to both medically related morphine addiction (itself a gradually disappearing phenomenon) and heroin addiction spread by association.

A reexamination of the literature on the therapeutic uses of heroin yields one important clue: heroin was indicated principally in respiratory disorders. Regarded as a specific, it was given for a limited range of diseases—unlike morphine, which in the nineteenth century served as a virtual panacea. Early work on the therapeutic applications of heroin, especially that of Heinrich Dreser, emphasized its usefulness in suppressing cough and alleviating respiratory difficulties, a theme reiterated in most American discussions of the drug.⁴⁰ In 1900, for example, New York physician Bernard Lazarus reported favorably on the use of heroin in 9 cases. With the exception of a woman suffering from intercostal neuralgia, all of the patients had respiratory complaints.⁴¹ In 1906 the *Journal of the American Medical Association* summarized the literature on heroin as follows:

[It is] recommended chiefly for the treatment of diseases of the air passages attended with cough, difficult breathing, and spasm, such as the different forms of bronchitis, pneumonia, consumption, asthma, whooping cough, laryngitis, and certain forms of hay fever. It has also been recommended as an analgesic, in the place of morphine in various painful affections.⁴²

The last sentence refers to studies by Norman P. Geis, Samuel Horton Brown, Erle Duncan Tompkins, and others documenting heroin’s analgesic potential.⁴³ Although these researchers were perfectly correct—heroin is at least as potent as morphine in relieving pain⁴⁴—several dissenting opinions were expressed. An early German report indicated that heroin

did not seem suitable as a general pain reliever (*Schmerzlinde*nd), emphasizing instead its utility in cough.⁴⁵ Morris Manges, writing in the *New York Medical Journal*, described heroin as absolutely useless as a general analgesic in the usual dosage of $\frac{1}{12}$ to $\frac{1}{10}$ grain.⁴⁶ George E. Pettey also remarked that the drug was less powerful and less prompt than morphine as a pain reliever.⁴⁷ As misinformed as these critics were, they appear to have had an impact on the profession, for heroin continued to be used principally as a cough remedy.⁴⁸ This tendency was reinforced by the advertisements of the Bayer Pharmaceutical Company and other heroin distributors who promoted the drug as a specific for cough and respiratory disorders, and only rarely as an analgesic.⁴⁹

The circumscribed use of heroin greatly reduced the number of potential iatrogenic addicts. Whereas virtually any complaint in the 1870s might have warranted an injection of morphine, a patient in the early 1900s suffering from rheumatism or dysentery or some other nonrespiratory ailment had a relatively remote chance of receiving heroin. The intimation of Terry and Pellens that the medical profession used heroin as indiscriminately as morphine obscured this important point.

Another weakness in the case for widespread iatrogenic heroin addiction involves the mode of administration. Heroin was given orally, in tablets, pills, and pastilles, or in an elixir or glycerin solution.⁵⁰ It was not generally injected, particularly in cases of cough, and the dosage was kept low.⁵¹ Small amounts of opiates administered orally would not have been as dangerous as opiates injected hypodermically. Addiction via the oral route was still possible, of course, but at least the near-instantaneous relief and euphoria of an injection were absent.

This advantage was somewhat offset, however, by the fact that heroin was introduced as a nonaddictive drug. "Safe and reliable," "addiction can scarce be possible," and "absence of danger of acquiring the habit" were some of the early, misleading claims made about heroin.⁵² More skeptical physicians soon began issuing warnings, however. In 1899 Horatio C. Wood, Jr., became the first American to urge caution; the following year Manges noted "habituation" as a consequence of treatment in 6 to 8 percent of his cases. Although he distinguished such habituation from full-blown morphine addiction, a condition he held to be much more serious, Manges nevertheless cautioned that "after all heroin is a derivative of morphine, and . . . is to be dispensed with the discrimination and judgment which are essential to all sedative drugs."⁵³ In 1903 George Pettey published a strong and unambiguous indictment, "The Heroin Habit An-

other Curse,” in which he systematically rebutted the claims of safety advanced by heroin enthusiasts.⁵⁴ The aforementioned *Journal of the American Medical Association* article was equally clear on this point: “The habit is readily formed and leads to the most deplorable results.”⁵⁵ Abstracts of European work on heroin addiction, which soon began appearing in English-language journals, were another source of information.⁵⁶ The significant point about these and other heroin warnings is that they appeared as early as they did, within a few years of the drug’s introduction; physicians did not have to wait for 15 years, as was the case with the hypodermic injection of morphine. This relatively prompt response was another factor limiting the extent of iatrogenic heroin addiction.

The early heroin warnings also appeared in a period of growing professional concern over the excessive prescription of opiates and were therefore more likely to be heeded by the average practitioner, now highly sensitive to charges of narcotic overuse. It would be difficult to choose an exact date when iatrogenic heroin addiction ceased to be a problem (Terry and Pellens designated 1910); the situation is probably best described as a slow but steady abandonment of the drug. By 1920 Thomas Blair could announce that in Pennsylvania “there are literally thousands of physicians who have stopped the use of heroin altogether.” Doctors prescribed an average of less than 16 grains apiece in 1919, and Blair anticipated that the average for 1920 would scarcely exceed 2 grains.⁵⁷ That same year the House of Delegates of the American Medical Association endorsed a resolution calling for a total ban on heroin.⁵⁸

A final word must be said about heroin as a cure for morphine addiction. In 1899 a Berlin physician, Albert Eulenberg, suggested that heroin might be useful in treating morphine addiction, a proposal passed on to the American audience by Bernard Lazarus of New York.⁵⁹ How widespread this practice became is uncertain, but by 1903 Pettey reported that half (4 of 8) of the heroin cases coming under his care “had substituted Heroin for morphine with the idea that they were curing themselves of the habit, but after the substitution was made they were unable to leave off the Heroin.”⁶⁰ After word spread that heroin was addictive, this practice was quickly abandoned.⁶¹ From the standpoint of the overall prevalence of opiate addiction, the substitution cure was of little importance; no new opiate addicts were created, only old ones were fitted out with a new drug.

In summary, then, the therapeutic use of heroin led to the creation of some new addicts, and some older addicts were switched to heroin in a vain attempt at cure. Fortunately, there were several limiting factors. The

most important was the fact that heroin, unlike morphine, was indicated principally for one category of disease, the respiratory disorders. It was never a panacea. Furthermore, heroin was given orally, rather than injected. The relatively early warnings of heroin's addictive potential, plus the profession's growing narcotic conservatism, also played a constraining role. By approximately 1910 iatrogenic addiction had been reduced to a trickle, and the heroin addict who could blame his condition on his physician was about to be eclipsed by a new and less sympathetic type. Enter the heroin sniffer.

The Origins of Nonmedical Heroin Addiction

"It is a notorious fact," remarked Congressman Joseph Holt Gaines of West Virginia, one of the few to speak against the 1909 Smoking Opium Exclusion Act, "that those who are addicted to the opium habit will secure the drug in some form . . . if they are prevented from getting it in the form in which it is preferred."⁶² Subsequent events proved Gaines correct; one of the earliest and most significant incentives to the use of heroin was the ban on imported smoking opium. This trend, according to Pearce Bailey, began about 1910, as veteran smokers and their recruits, deterred by the new crackdown on the dens, abandoned the pipe for more powerful and legal forms of opiates.⁶³ Smoking opium could still be had, of course, but it "became very expensive and could only be obtained in small quantities by those who could afford it at all."⁶⁴ Heroin, which was cheap and did not require the use of a hypodermic syringe, was an attractive alternative. The drug also appealed to curious neophytes who in years past would have experimented with smoking opium, but who now began sniffing heroin instead. The changing preference of these younger users helps to explain the low average age of heroin addicts.

Another factor behind the increasing popularity of heroin was the growing scarcity of cocaine. A popular underworld stimulant, cocaine was, like smoking opium, a target of restrictive legislation. Supplies diminished, prices rose, and substitutes were sought. In order to understand how this situation came about, and why cocaine users switched to heroin, it is necessary to digress briefly and explain something of the history of this controversial drug.

Coca leaves, chewed by South American natives for centuries, came to the attention of the western medical community in the mid-nineteenth century. Although the alkaloid cocaine was isolated in Germany in 1860, it

was not until the mid-1880s that its therapeutic application became common. The major impetus to medical use of cocaine was a series of glowing reports, including articles by a then-obscure Viennese neurologist, Sigmund Freud.⁶⁵ Like morphine (but unlike heroin), cocaine was recommended for a wide variety of conditions. As one advertising brochure put it, an “enumeration of the diseases in which coca and cocaine have been found of service would include a category of almost all the maladies that flesh is heir to.”⁶⁶ Cocaine was recommended as an antispasmodic, aphrodisiac, anodyne, and local anesthetic, as a specific for hay fever and asthma, and as a cure for alcoholism and opiate addiction, to name but a few of its proposed uses.⁶⁷ It was also recommended as an all-purpose tonic, for patients who exhibited “melancholy” or “the blues” or other less than precisely defined depressive symptoms. One especially popular product was Vin Mariani, a coca wine used and endorsed by Americans of no less stature than Thomas Edison and William McKinley.⁶⁸ Many physicians also tried cocaine on themselves, thereby worsening the profession’s already serious addiction problem.⁶⁹

The faddish use of such a powerful stimulant inevitably drew a counter-attack. The suggestion, advanced by Freud and others, that cocaine be employed to alleviate withdrawal distress was vigorously condemned.⁷⁰ A growing number of critics chided the profession for overprescribing the drug in colds, hay fever, and other common ailments.⁷¹ Equally important was the development of drugs like tropacocaine (1891), stovaine (1903), and novocaine (1904), synthetics that retained cocaine’s valuable anesthetic properties but lacked its euphorigenic effects. Just as many practitioners put aside morphine for safer analgesics like aspirin, conscientious dentists and physicians began switching from cocaine to one of the new synthetics.⁷² Unfortunately, patent-medicine vendors continued to promote self-medication with the drug, a key ingredient in many of their preparations. Cocaine was also available in a variety of soft drinks (some of which had medicinal pretensions, some not) or in pure form through the mails.⁷³

The treatment or self-treatment of disease was only one factor in the spread of cocaine. Sometime in the late 1880s or early 1890s—the date is not certain—black stevedores in New Orleans began taking the drug in order to “perform more easily the extraordinarily severe work of loading and unloading steamboats,” a task at which they toiled for up to “seventy hours at a stretch . . . without sleep or rest, in rain, in cold, and in heat.”⁷⁴ It is likely that this practice had its origins in reports of similar use of coca

leaves by South American natives, who were able to increase their nervous energy, forestall drowsiness, and "bear cold, wet, great bodily exertion, and even want of food to a surprising degree, with apparent ease and impunity."⁷⁵ The use of cocaine by black laborers spread from New Orleans to other parts of the South, to cotton plantations, railroad work camps, and levee construction sites.⁷⁶ "Well, the cocaine habit is might' bad," ran one work song, "It kill ev-ybody I know it to have had."⁷⁷ Others turned to the drug, not as a stimulus to work, but as a form of dissipation.⁷⁸ Some authorities charged that blacks, crazed by cocaine, went on superhuman rampages of violence, allegations that since have been denied.⁷⁹ Behavioral considerations aside, it is fair to say that cocaine was relatively popular in black communities, and that many blacks made at least occasional use of the drug as a euphoric agent. In 1912 Charles Terry found blacks significantly overrepresented among Jacksonville's regular cocaine users; their rate was 2.98 per thousand, in comparison to 1.61 for whites.⁸⁰

Sometime between 1895 and 1900 cocaine became popular in the white underworld, in both northern and southern cities. "The classes of the community most addicted to the habitual use of cocaine," reported New York City Police Commissioner Theodore Bingham, "are the parasites who live on the earnings of prostitutes, prostitutes of the lowest order, and young degenerates who acquire the habit at an early age through their connection with prostitutes and parasites."⁸¹ As a group they were quite similar to the white opium smokers; many, in fact, had a history of opium smoking, or had previously resorted to some other opiate.⁸² As Bingham's remarks suggest, the practice was frequently acquired in brothels, where experienced prostitutes introduced their customers to the pleasures of the drug.⁸³

Although cocaine as a medicine was inhaled, ingested, or injected, for euphoric purposes it was usually sniffed. George C. Biondi, of the Fordham University School of Medicine, commented that of approximately a thousand cases he had witnessed, he could recollect but "three or four instances of exclusive hypo users, and these were at the same time morphine-fiends."⁸⁴ Because of the vascularity of the mucous membrane, cocaine sniffed up the nostrils enters the bloodstream and produces its effects very quickly. Sniffing was also economical; only small amounts, when used in this manner, were required to produce stimulating effects. Sniffing also avoided the expense, unpleasantness, and possible sepsis involved in hypodermic administration.

Reaction to nonmedical cocaine use, among blacks as well as whites, was

not long in coming. By 1915 most states had passed laws designed to restrict use of the drug to therapeutic purposes, mainly by limiting its purchase to those with a legitimate prescription.⁸⁵ New York passed a series of laws in 1907, 1908, 1910, and 1913, the last placing so many elaborate restrictions on cocaine that legal distribution was practically impossible.⁸⁶ While these laws did not prevent the illicit use of cocaine, they did succeed in stimulating higher black-market prices.

With the price of their favorite drug increasing, cocaine users in New York and elsewhere were forced to consider alternatives. Heroin was doubly attractive: it was cheap, and it was taken in the accustomed fashion, sniffing. Any unpleasant symptoms, particularly depression, that the regular cocaine user might experience on discontinuing use of the drug were alleviated by the tranquilizing and mood-elevating properties of heroin. From New York City, Philadelphia, and Boston came reports of heroin addicts with a prior history of cocaine use.⁸⁷ Newspapers and films also emphasized the link between the two drugs. One story, appearing in the *New York Times*, stated that heroin, "made by treating cocaine with acetic acid . . . is much cheaper than cocaine, [and] its use is proportionately greater." The slip is revealing; the reporter, aware that heroin and cocaine were taken in the same way and by the same type of people, assumed the one was a derivative of the other. "The Drug Terror," a silent movie of the era, made a similar error. The film opened with a shot of a heroin bottle; beneath it ran the caption, "This drug is identical with cocaine in effect." This, of course, is incorrect: heroin is a narcotic, cocaine a stimulant; heroin withdrawal includes physical symptoms absent in cocaine withdrawal. But one can easily imagine how the filmmakers, intent on dramatizing the dangers of drug sniffing by a group who had a history of using both substances, could have mistakenly equated heroin and cocaine.⁸⁸

Some users, however, had no previous experience with cocaine but began experimenting with heroin directly. Like "Harold," they might later sniff cocaine when it was available, but its use was relatively insignificant compared to the amount of heroin consumed once addiction was established.⁸⁹ Many of those who used heroin initially, as well as those who switched from other drugs, were members of juvenile gangs.⁹⁰ Gang members were susceptible for several reasons. If one of their number passed around some heroin and urged his peers to sample it, there was tremendous pressure to do so; turning it down was an act of cowardice, entailing loss of status or even expulsion from the gang. On the positive side, there was the tremendous curiosity—the quest for new adventure—that

characterizes all such youthful groups. "The majority of the present takers are boys and young men whose easy sociability has been developed in the gangs," wrote Pearce Bailey. "A common story," he continued,

is of a group of boys being together at a dance, or a show, at some outdoor gathering in the summer. One of the number produces a "deck" or "package" of heroin and tells the others that the taking of it is wonderfully enjoyable; "try that and you won't have no trouble," he says; he sniffs it up his nose and has enough of it on hand or within reach to supply all the others who wish to try it. They, of course, all wish to follow exactly as the majority in any group of small boys will wish to imitate someone whom they see smoking tobacco. The first taking is generally not agreeable, but they try it again, and about twenty-five per cent become victims of the habit within a few months.⁹¹

Others described the same process in less sympathetic terms. "In many instances the patients [addicted to heroin] are members of gangs who congregate on street corners particularly at night, and make insulting remarks to people who pass," wrote Sylvester Leahy. "The histories as obtained from the patients and their relatives show that in practically every case the drug had been tried by one of the members of the gang who then induced the other members to try it."⁹² New York City addiction specialist Alexander Lambert characterized heroin addiction as a "vice of the underworld," acquired by the young through "vicious associations and habits." He compared heroin addicts unfavorably to morphine users, most of whom were over 30 and taking the drug "to forget bodily pain and mental suffering."⁹³

Is it appropriate to describe these youthful heroin users as criminals, or as representing a criminal class? The answer is a matter of definition. If by *criminal* is meant a hardened professional, a full-time lawbreaker, the answer is no. A boy's association with his gang and its activities was often casual, something he did after work or school. If, however, by *criminal* is meant engaging in criminal activities, the answer is a qualified yes. The typical urban street gang of the 1910s and 1920s engaged in a wide range of legal and illegal activities. It was, as Jacob Riis put it, a club gone wild. The same group that would organize a baseball game or a dance one day might be found pilfering boxcars or smashing windows the next. Fighting was an ever-popular activity, and beatings, knifings, and shootings, especially of rival gang members, were common. The gang was so structured

that those who exhibited the most daring and pugilistic character quickly assumed leadership; hence members were quick to perform and brag about illegal feats.⁹⁴ Most gang members who began using drugs had a history of indulgence in destructive and dangerous pastimes, of which heroin sniffing was merely one manifestation.

Statistics on the age, sex, urban, and social background of the addicts fit well with this portrait of the heroin user as gang member. It would be misleading, however, to characterize heroin sniffing as strictly a juvenile gang activity. Many who took heroin were older—professional criminals, gamblers, and prostitutes who found it expedient to switch from smoking opium or cocaine. A few addicts came from respectable backgrounds.⁹⁵ Army barracks were also the scene of heroin sniffing. Nonmedical use of opiates in the armed services dates at least as far back as 1898, when soldiers stationed in the Philippines learned to smoke opium.⁹⁶ Somewhat later cocaine came into vogue, followed by heroin in the years 1912 to 1916. Soldiers were either introduced to the drug by their friends, who praised its ability to alleviate fatigue and induce euphoria, or by prostitutes who worked the nearby brothels. Heroin's appeal was enhanced by its reputation as an *aide d'amour* whose use prolonged the sexual act. Army officers took a dimmer view of the drug, however, and, on the ground that one addict might corrupt an entire company, soldiers caught using heroin or cocaine were punished and discharged.⁹⁷ Similarly, when the draft became a factor, recruits showing signs of drug addiction were summarily rejected. Supervision was especially strict during World War I; moreover, an addict shipped overseas, unless attached to a medical unit, would have found it almost impossible to secure a supply.⁹⁸ Because of these precautions and wartime conditions, heroin in the army remained an isolated and relatively insignificant problem, especially in comparison with growing civilian use. Not until the Vietnam War did the specter of heroin addiction again seriously trouble army physicians.⁹⁹

The Spread of Heroin

In 1920 heroin sniffing was largely confined to New York and a few nearby cities, the most important of which was Philadelphia.¹⁰⁰ Other eastern and midwestern cities had their heroin addicts, but these were a decided minority. By 1940, however, heroin was the opiate of choice among underworld users in virtually every large American city. What effected this dramatic change?

To begin with a narrower question, why was heroin addiction concentrated in the New York City area in the first place? It was not always so; prior to 1916 outbreaks of nonmedical heroin use had been noted in Boston, Chicago, and other cities.¹⁰¹ One story is that prisoners whose coughs were treated with heroin learned that the drug produced euphoria; they then passed this information along to friends on the outside, who in turn spread the news from one city to another. As a result, by 1915 heroin was known in tenderloin districts all over the country.¹⁰² Heroin fell into disuse, however, except in New York and surrounding cities. Heroin's survival in that region was attributable largely to its continued availability. Many of the major heroin distributors, such as the Bayer, Merck, Schieffelin, and Martin H. Smith companies, were located in New York City. Retail druggists in the area would have been well stocked, and it would have been easier to divert large amounts of the drug into the illicit traffic (by rerouting orders, stealing from warehouses, spiriting imports past customs, and so forth) in New York than elsewhere.¹⁰³ In other places morphine was more abundant. In Boston, for example, much of the illicit traffic consisted of morphine legally exported to Canada, then smuggled back across the border.¹⁰⁴

Addicts and their recruits adapted their requirements to suit the supply. One consequence of the temporary eclipse of heroin outside the New York City area was that morphine assumed new importance as a euphoric agent and as a substitute for smoking opium. In 1917 Leo L. Stanley, resident physician at California's San Quentin Prison, asked addicted inmates which form of opium they had first used. Of 100 prisoners interviewed, 58 indicated smoking opium, 20 morphine hypodermically, 8 morphine orally, 3 "yen shee" (ashes of smoking opium) orally, and 11 "cocaine and laudanum, or eating opium." But when asked which form of the drug they had last used, 48 replied morphine hypodermically, 8 morphine orally, 28 morphine and cocaine, 3 smoking opium, while the remaining 13 used "morphine by mouth and syringe together, according to circumstances" or took "heroin and laudanum." Morphine thus assumed the place of smoking opium in the California underworld.¹⁰⁵ By 1917 Massachusetts opium smokers had also largely switched to morphine, or morphine and cocaine.¹⁰⁶ In 1922 C. Edouard Sandoz, medical director of the Boston Municipal Court, published a detailed account of addiction in that city. Morphine was far and away the opiate of choice: "we rarely see a case of heroinism," he reported. Many of the Boston addicts had previously used smoking opium, cocaine, and heroin; others drank; still others took to

morphine directly. Injection was the most common method of administration, and other drugs, especially cocaine, were used when available.¹⁰⁷ Like their heroin-sniffing counterparts, these addicts were young and were introduced to the drug by their associates. They were, in contrast to most nineteenth-century medical addicts, predominately male. To tie in a trend noted earlier, it may well be that the male majorities observed in Cleveland (1915), in Shreveport (1919–1923), and by Kolb (1923) reflect the increasing prevalence of this new type of morphine addict.¹⁰⁸ As “sporting” addicts were recruited in areas outside New York City, and as older female addicts died off, the shift in sex became more pronounced; a nationwide study of morphine addicts reported for violation of the narcotic laws between July 1 and October 31 of 1929 showed that fully 824 of 1,054 cases (78.2 percent) were male.¹⁰⁹

This state of affairs—heroin sniffers in and around New York City, morphine addicts elsewhere—might have persisted were it not for yet another change in the legal status of the opiates and opiate addiction. The source of this change was the 1914 Harrison Narcotic Act. As detailed and scholarly accounts of the origin, passage, and interpretation of the Harrison Act are available elsewhere,¹¹⁰ I shall confine myself here to a brief review of its legislative and judicial history.

When Hamilton Wright returned from the 1909 Shanghai Opium Commission, he had two basic goals in mind: the convening of an international opium conference, which, unlike a commission, would have treaty-drafting powers; and the passage of comprehensive domestic antinarcotic legislation. He achieved the first objective but not the second. Wright eventually was able to persuade Secretary of State Philander C. Knox of the value of an international opium conference, and on September 1, 1909, formal invitations and a tentative agenda were sent out to the nations that had participated in the Shanghai meeting.¹¹¹ The response was less than enthusiastic; many nations had a vested interest in the opium traffic and were reluctant to see international control imposed. After considerable delay the conference convened at the Hague on December 1, 1911.

Meanwhile Wright continued to push for more stringent domestic narcotic laws. His main efforts were devoted to the Foster bill, an elaborate measure which, like earlier smoking opium legislation, aimed at indirect control of the traffic through the long-recognized taxing and commerce powers. The Foster bill required those who dealt in narcotics to register, pay a tax, and carefully record all transactions, even of minute amounts.

Drug containers, like liquor bottles, would bear a tax stamp, and persons who were not registered were barred from shipping narcotics across state lines. Penalties for violation were stiff, up to \$5,000 and 5 years in prison. Further, state and local boards of pharmacy and law enforcement agencies would have access to the records. They could thus ascertain who sold how much of which drug to whom, information that could prove embarrassing to doctors and druggists who were little more than narcotics purveyors and that could lead to the better enforcement of existing narcotic laws. Wright also argued that the registration and record-keeping provisions would soon drive disreputable dealers, such as saloonkeepers and peddlers, out of interstate commerce, where they secured the bulk of their supplies.¹¹² But legitimate manufacturers and dealers countered that the elaborate regulations would hamstring their trade, and for this reason they strongly opposed the bill.¹¹³ As we have seen, Wright's attempt to bluff the bill through in the face of this opposition was a failure.

So Wright set sail for the Hague without exemplary new narcotic legislation. He tried to put the best face on things; in a memorandum to the conference he explained that passage had been postponed "until all those affected shall have been heard. Besides this, there has been such a press of business before the Congress since the question of interstate control of cocaine, etc., was actively brought before it that action has been delayed."¹¹⁴ The polite talk about delay fooled no one. The German delegate asked Wright point-blank what guarantee he could give that Congress would pass the necessary legislation to put the provisions of the treaty into force. This was twisting the knife in the wound, for Wright had done everything in his power to get the Foster bill through and had failed. Mortified, he nevertheless managed a lofty and dignified reply, "The good faith of the United States ought to be a sufficient guarantee that the government would carry out all that it had agreed to."¹¹⁵

Such incidents did not divert the conference for long, however, and by January 23, 1912, agreement was reached. The Hague Opium Convention dealt mainly with the international narcotic traffic, but it also pledged the contracting powers to promulgate and enforce laws to control the domestic manufacture and sale of medicinal opium, morphine, heroin, and cocaine, and to restrict their consumption to medical and legitimate uses only. Although some powers delayed signing the convention and it did not actually go into effect until 1914, Wright now believed that Congress had a moral and diplomatic obligation to honor the convention by regulating the domestic narcotic market.¹¹⁶

The campaign was renewed in June 1912, when a bill similar to the original Foster proposal was introduced into the House. Its sponsor was Congressman Francis Burton Harrison, a genteel New Yorker who agreed to take charge of the legislation after Foster's untimely death on March 21, 1912. Again the bill failed to get beyond the House Ways and Means Committee, primarily because Wright refused to incorporate changes demanded by the drug trades. Harrison tried again in January 1913, with similar results.¹¹⁷

Harrison eventually convinced Wright that he would have to negotiate directly with the National Drug Trade Conference (NDTC), an ad hoc lobby charged with keeping careful watch on narcotic legislation. The legitimate organizations represented by the NDTC, such as the National Wholesale Druggists' Association, were not opposed in principle to government regulation of the narcotic market. Rather, they sought to eliminate the provisions of the Harrison bill they considered too stringent. The negotiations began inauspiciously; Wright became so incensed during the first session that he walked out of the meeting. He soon cooled off, however, and discussions resumed. Eventually they were broadened to include officials of the State and Treasury departments, as well as representatives of individual drug companies.

By May 1913 a compromise bill had been hammered out, and NDTC representatives John C. Wallace and Charles M. Woodruff signed a statement declaring that the new version had their thorough support and approval.¹¹⁸ The concessions won by the drug trades and medical profession can be summarized as follows: chloral and cannabis were dropped from the list of controlled drugs, leaving opium and cocaine, their derivatives and salts; the amount of the proposed tax was reduced to a nominal one dollar; bookkeeping procedures were standardized and simplified; physicians in attendance upon a patient could dispense narcotics without making a record; and preparations containing small amounts of narcotics were exempted from the provisions of the bill. The basic scheme of the original Foster bill remained intact, however. All those who dealt in narcotic drugs were to register with and pay a small tax to their district internal revenue officer, and keep accurate records of their transactions.

In June 1913, one month after agreement with the NDTC was reached, Harrison introduced the compromise bill. It took this version less than a week to pass the House. On June 24, the day after it was introduced, it was reported back favorably from the Ways and Means Committee. The report bore witness to Wright's influence: his dramatic statistics were re-

peated, as well as his argument that "this government is bound to enact legislation to carry out its humanitarian, moral, and international obligations."¹¹⁹ During the floor debate Harrison emphasized that the measure had at last received the imprimatur of the drug interests.¹²⁰ Even so, the measure came in for some sharp criticism, particularly section 6, which exempted nostrums containing small amounts of narcotics. Congressman James R. Mann acknowledged the criticism and allowed that narcotic patent medicines "probably ought to be abolished." Then he added candidly, "Unfortunately I am forced to believe that if we should attempt in this way to attack all the proprietary medicines which contain opium, the bill would have a rocky road to travel, and would be consigned to oblivion. That may not be a very good excuse, but, after all, it is practical."¹²¹

Mann was probably anticipating the bill's fate in the Senate when he uttered those words. As the measure made its none-too-rapid progress through the upper chamber, a variety of special-interest amendments were tacked on. Typical of these was an amendment raising the section 6 heroin limit from $\frac{1}{12}$ grain per ounce to $\frac{1}{4}$ grain per ounce. The House objected, a conference committee was appointed, and by late October 1914 a compromise had been worked out.¹²² The bill was finally signed into law on December 17, 1914.

In many respects the Harrison Act was a classic piece of progressive legislation: reform effort (restrict the sale of narcotics) met business self-interest (rationalize the narcotic market) to produce a compromise measure. Large pharmaceutical firms were perfectly willing to see small-time, unregistered peddlers prosecuted; enlightened and professionalized pharmacists agreed to restrict sale to those possessing a prescription; and nostrum makers could go on merchandising their wares, provided they contained no more than the allowable amount of narcotics.

There was one issue, though, that could not be compromised, and that was maintenance. Either opiate addicts could obtain their supply legally, or they could not. The law was silent on this crucial point—the words *addict* and *addiction* appear nowhere in the statute—and there is frustratingly little in any of the hearings, floor debates, and committee reports to indicate congressional intent. Nevertheless, the agency first charged with enforcing the law, the Internal Revenue Bureau of the Treasury Department, assumed an aggressive antimaintenance stance. Alleging that a physician who issued a prescription to an addict for the sole purpose of maintenance was not acting within the bounds of the law, the bureau brought a number of indictments against doctors, druggists, and addicts for conspiracy to

violate the Harrison Act. At first the bureau's efforts, notably in *United States v. Jin Fuey Moy* (1916), were unsuccessful; in that case Justice Oliver Wendell Holmes, Jr., speaking for the seven-man majority, rebuked the government for construing a revenue statute as a sweeping prohibition. In the 1919 *Webb* case, however, the government managed to reverse the earlier decision and obtain a ruling favorable to its antimaintenance policy.¹²³

These laws and decisions had a marked impact on the addict in the street and on the kinds of drugs he used. After the Harrison Act went into effect addicts, as unregistered persons, had to obtain a prescription for their drugs. Increasingly these prescriptions were written by "dope doctors," licensed physicians who would for a fee provide the necessary service. During a single month one New York City doctor "wrote scrip" for 68,282 grains of heroin, 54,097 grains of morphine, and 30,280 grains of cocaine.¹²⁴ Although addicts might grumble at being gouged by the dope doctors, their only alternative was the black market. Black-market prices were up sharply, however, since unregistered dealers ran significant risks of prosecution and since it was now much more difficult to obtain sizable shipments from legitimate manufacturers.¹²⁵

The situation deteriorated further during 1919 to 1921, in the wake of the *Webb* decision and the closure of many of the hastily organized narcotic clinics. Some addicts, particularly those in rural areas and those suffering from chronic and incurable diseases, were still able to obtain morphine on a legal or quasi-legal basis.¹²⁶ But a growing number of other users, particularly nonmedical addicts living in large cities, were forced to rely on illegal purchases.

Heroin was the illicit opiate par excellence. It spread throughout the country during the 1920s and 1930s because dealers and their customers came to appreciate its black-market virtues. From the dealer's point of view, the principal advantage was the ease with which heroin could be adulterated. Profits could be doubled or quadrupled by cutting heroin with milk sugar or a similar substance. "I have known of instances," wrote one New York official, "where the addict has paid at the rate of a dollar a grain and would get six-tenths of a grain, and many more instances where he would be sold nothing but pure sugar of milk."¹²⁷ By 1938 heroin sold in the United States was on average only 27.5 percent pure—very potent by later standards, but considered highly diluted by a generation of addicts accustomed to purer drugs.¹²⁸ The fact that heroin, prior to adulteration, is a powerful yet compact substance also made it an ideal item for smuggling. In 1924 Congress, concerned with the youthfulness and alleged

violence of heroin addicts and desiring to set an international precedent, effectively outlawed domestic use of the drug;¹²⁹ yet even this drastic measure failed to stem the illicit traffic. "In fact," commented Narcotic Inspector Samuel L. Rakusin two years after the heroin ban, "it seems that it is more plentiful at this time than it ever was before."¹³⁰

If dealers were eager to supply heroin, addicts were generally willing to purchase it. Heroin was, in the first place, considerably cheaper than morphine. A survey of illicit narcotic prices in fifteen major cities in 1934 showed that the wholesale price of morphine ranged from \$50.00 to \$150.00 per ounce, whereas heroin sold for \$17.50 to \$90.00. The per grain or street price of heroin was lower than that of morphine in every city where direct comparison was possible.¹³¹ Not only was heroin less expensive, it was also stronger and faster acting than morphine when administered in a comparable manner.¹³² Even though it was adulterated, heroin was "cheaper for the amount of kick in it," as one narcotic agent phrased it.¹³³ Finally, heroin could be injected or sniffed, the latter method appealing to new or potential users who might be needle-shy.¹³⁴

In spite of these several advantages, the diffusion of heroin was a gradual process. Addicts, like everyone else, developed their preferences and idiosyncracies; changing to a new drug was not always casual or easy. Still, with the prospect of withdrawal before them and the price differential between morphine and heroin steadily increasing, even the most reluctant users eventually switched to the cheaper and more powerful opiate. In geographic terms, the diffusion of heroin is best described as radiation outward from New York City. By the mid-1920s growing numbers of users were observed in coastal cities running north and south of New York.¹³⁵ Heroin was also spreading westward, through Pennsylvania, Ohio, Illinois, and into the Midwest. Figure 7 maps heroin seizures for two calendar years, 1927 and 1928. The heaviest concentration was along the East Coast, from Washington, D.C., to Boston, but it can be seen that heroin use was extending through the Great Lakes region and beyond.¹³⁶ The process continued until, in 1932, the Bureau of Narcotics officially declared that "heroin has supplanted morphine to a considerable degree as the drug of addiction in every part of the United States except on the Pacific Coast."¹³⁷ That generalization was perhaps too sweeping—there were still in 1932 a great many southern morphine addicts—but on the whole the bureau had appraised the situation correctly.

Relative seizures of narcotic drugs are another index of heroin's growing importance. In fiscal 1927, 4.0 pounds of morphine for every pound



Figure 7 Heroin seizures in the United States, calendar years 1927 and 1928. Source: *Extracts from the Report of the Commissioner of*

of heroin were seized under federal internal revenue laws. By 1932, however, 3.4 pounds of heroin were seized for every pound of morphine, and by 1938 the heroin-to-morphine ratio¹³⁸ was 7.7 to 1. So scarce did morphine become that specialists in the pharmacology of opium alkaloids, who normally received a free supply of confiscated morphine for their experiments, began to run low. One prominent researcher, Lyndon F. Small, was warned that desperate addicts were beginning to raid legitimate supplies and that henceforth any morphine furnished for his research would be sent by Treasury Department courier, rather than through the mails.¹³⁹

Another important development, paralleling the growing importance of heroin as a black-market opiate, was the diffusion of the hypodermic technique among heroin addicts. A user who had begun sniffing heroin in 1910 to 1915 would likely have been injecting it by 1920 to 1925. Continuous inhalation of heroin, particularly if taken with cocaine, seriously damages the nasal septum;¹⁴⁰ hence alternative routes must be sought. Addicts were also drawn to the hypodermic as a more convenient way of administering increasingly large doses and as a way of enhancing the drug's effect. The quickest and most euphorogenic route of all is the intravenous, and sometime in the early 1920s addicts learned to inject heroin directly into their veins. This technique probably began accidentally when an addict hit a vein and, after his initial fright wore off, discovered that this method was even more pleasurable than subcutaneous or intramuscular injection. He then passed this information on to his companions.¹⁴¹

Another motive for intravenous use was the steadily declining purity of street heroin during the 1930s. The official explanation for heavier adulteration was the tightening of international restrictions on heroin production in 1930 to 1932.¹⁴² At the same time an aggressive new generation of Italian gangsters began infiltrating the drug traffic, replacing other groups, notably the Jews. The Jewish dealers had a reputation for being "businessmen," that is, they distributed a decent product, made a high but not exorbitant profit, and sought to maintain steady relations with their customers. However, they and other distributors were driven out of business through a variety of strong-arm tactics. Recalled one former Times Square dealer:

They'd find 'em in the East River if they kept selling it . . . We had a lot of kids on the East Side [killed] . . . as soon as the wops found out that they was selling against their orders not to sell . . . They'd put you out, they wanted their man there, see, they had their man . . .

They took your customer away; to get 'em, they'd say, "What does he charge ya? 10? Here, we give it to ya for 5."—You lost 'em! But the dopey bastard don't know that soon as *I'm* out of business, they'll charge 'em 20 for what I give 'em for 10.¹⁴³

Not only did the price increase, but the level of adulteration as well. "When the Chinese and the Jews had it, it was beautiful," remarked another former dealer. "But when the Italians got it—bah! They messed it all up . . . They started thinking people were just a herd of animals—just give them anything."¹⁴⁴ Precisely how much of this adulteration was due to growing Italian involvement and how much to new international restrictions is uncertain. It is certain, however, that many addicts, in order to derive maximum satisfaction from an increasingly diluted drug, began resorting to the most drastic and direct route of administration. As one addict, who turned to intravenous use around 1932, succinctly put it, "You didn't need no vein until they cut it." This user, described only as a white man from New York City, had a particularly interesting history, for he exemplified the changes the nonmedical opiate addict underwent in the early twentieth century. He learned to smoke opium fairly late, in 1912, at the age of 16. In 1914 he shifted briefly to oral use, then began to sniff heroin and cocaine in 1915. In 1922 he and his companions turned to subcutaneous injection, and then, 10 years later, to intravenous. The drug injected was heroin, or heroin with cocaine.¹⁴⁵

The drift to the needle was in evidence as early as 1917, when Charles Stokes noted that 10 of 18 heroin patients treated at Bellevue in New York employed the hypodermic technique.¹⁴⁶ Of 37 heroin users examined in 1918 at Camp Upton, New York, 24 used a hypodermic, 8 sniffed the drug, and 5 used both routes.¹⁴⁷ A thorough study of 318 institutionalized addicts conducted in New York City in 1928–1929 showed that of 263 heroin cases, 251 used the drug subcutaneously, 11 intravenously, and 1 orally. Only 2 instances of sniffing were reported, even though sniffing was the most common manner in which the addict first used the drug.¹⁴⁸ A 1929 study of addicts in Philadelphia General Hospital's narcotic wards yielded similar findings: 80.0 percent of the patients used heroin prior to admission, the majority hypodermically, except for "several cases of sniffing and . . . two in which self-intravenous administration was employed."¹⁴⁹ The intravenous route continued to gain in popularity during the 1930s; by 1940 a majority of addicts admitted to the Lexington Hospital had a prior history of intravenous use.¹⁵⁰

The transformation of the nonmedical user from opium smoker to heroin mainliner was more than just a statistical trend, however; it was an event of incalculable physical and financial cost to the addict. Not only did he have to pay more for a drug of unknown strength and purity, but the health risks of injection—especially intravenous injection—were much greater than those involved with opium smoking. Too many addicts ended up like “Slim Wicket,” an informer described in the memoirs of undercover narcotic agent Maurice Helbrant:

He shot himself every which way, in a vein sometimes, in any part of his body . . . He took his shots in my presence without any shame or modesty. It always made me wince, and still does: I never became hardened to the sight of it. He undressed for bed with equal indifference to what I saw—grimy underwear and an unwashed body (for addicts become indifferent to such things, even if they still try to keep up a decent appearance on the outside), and worse, the punctures in his skin, work of the needle, hundreds of them, some caked or festering, the skin of his upper arms literally in ribbons.¹⁵¹

Sepsis of every imaginable variety, hepatitis, endocarditis, emboli, tetanus, overdose, and early death; these were the consequences of the needle, and no small part of the damage done.¹⁵²

Heroin addiction was originally iatrogenic in nature, the unexpected and unwanted by-product of treatment for respiratory disease. Although doctors eventually abandoned their use of the drug, it became popular after 1910 as a euphoric agent. Legal pressures on smoking opium and cocaine were important factors behind this early nonmedical use. Later, when the majority of addicts had been effectively denied access to legal opiates, heroin use spread—principally because it was the opiate most suitable for black-market distribution. In addition to a change in the geographic distribution of heroin addicts, from the New York City area to cities scattered throughout the country, there was a change in the method of administration: sniffing gave way to subcutaneous or intramuscular injection, which in turn gave way to intravenous. By 1940 the heroin mainliner had emerged as the dominant underworld addict type.